Y, CALIFORNIA 93943-5002

RI

NAVAL POSTGRADUATE SCHOOL
Monterey, California

THESIS

K85451

THE CLOSE ABOARD BASTION:
A SOVIET BALLISTIC MISSILE
SUBMARINE DEPLOYMENT STRATEGY

by

Walter M. Kreitler

September 1988

Thesis Advisor: Jan S. Breemer

Approved for public release; distribution is unlimited

T242020

UNCLASSIFIED
CURITY CLASSIFICATION OF THIS PAGE

REPORT DOCUMENTATION PAGE

a REPORT SECURITY CLASSIFICATION UNCLASSIFIED	1b RESTRICTIVE MARKINGS
a. SECURITY CLASSIFICATION AUTHORITY	3 DISTRIBUTION / AVAILABILITY OF REPORT Approved for public release; distribution is unlimited
b. DECLASSIFICATION / DOWNGRADING SCHEDULE	
PERFORMING ORGANIZATION REPORT NUMBER(S)	5 MONITORING ORGANIZATION REPORT NUMBER(S)

a NAME OF PERFORMING ORGANIZATION Naval Postgraduate School	6b OFFICE SYMBOL *(If applicable)* Code 55	7a. NAME OF MONITORING ORGANIZATION Naval Postgraduate School
c. ADDRESS *(City, State, and ZIP Code)* Monterey, California 93943-5000		7b. ADDRESS *(City, State, and ZIP Code)* Monterey, California 93943-5000
a. NAME OF FUNDING / SPONSORING ORGANIZATION	8b. OFFICE SYMBOL *(If applicable)*	9. PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER
c. ADDRESS *(City, State, and ZIP Code)*		10 SOURCE OF FUNDING NUMBERS

PROGRAM ELEMENT NO.	PROJECT NO.	TASK NO	WORK UNIT ACCESSION NO.

1. TITLE *(Include Security Classification)*
THE CLOSE ABOARD BASTION: A SOVIET BALLISTIC MISSILE SUBMARINE DEPLOYMENT STRATEGY

2. PERSONAL AUTHOR(S)
Kreitler, Walter M.

3a. TYPE OF REPORT	13b TIME COVERED	14. DATE OF REPORT *(Year, Month, Day)*	15 PAGE COUNT
Master's Thesis	FROM ______ TO ______	1988, September	114

6. SUPPLEMENTARY NOTATION
The views expressed in this thesis are those of the author and do not reflect the official policy or position of the Department of Defense or the U.S. Government.

7. COSATI CODES			18. SUBJECT TERMS *(Continue on reverse if necessary and identify by block number)*
FIELD	GROUP	SUB-GROUP	Bastions; Anti-Submarine Warfare

9. ABSTRACT *(Continue on reverse if necessary and identify by block number)*

This thesis describes and analyzes a possible deployment posture for the Soviet ballistic missile submarine force. It examines the proposition that the Soviet Navy will establish a point defense, labeled "Close Aboard Bastions" (CABs), for its ballistic missile submarine fleet within the Soviet claimed 12 nautical mile territorial sea. This is a logical derivation of the currently widely held view that the Soviets will establish a "bastion" defense for the strategic portion of their seagoing forces. The thesis concludes that the postulated CAB strategy is a viable option for the Soviet Union during a war that begins conventionally.

20 DISTRIBUTION / AVAILABILITY OF ABSTRACT ☒ UNCLASSIFIED/UNLIMITED ☐ SAME AS RPT ☐ DTIC USERS	21. ABSTRACT SECURITY CLASSIFICATION Unclassified	
22a. NAME OF RESPONSIBLE INDIVIDUAL Prof. Jan S. Breemer	22b TELEPHONE *(Include Area Code)* (408)646-2228	22c. OFFICE SYMBOL Code 56Bb

DD FORM 1473, 84 MAR

83 APR edition may be used until exhausted
All other editions are obsolete

SECURITY CLASSIFICATION OF THIS PAGE

✩ U.S. Government Printing Office: 1986—606-24.

UNCLASSIFIED

Approved for public release; distribution is unlimited

The Close Aboard Bastion: A Soviet Ballistic Missile Submarine Deployment Strategy

by

Walter M. Kreitler
Lieutenant, United States Navy
B.A., Virginia Military Institute, 1980

Submitted in partial fulfillment of the
requirements for the degree of

MASTER OF ARTS IN NATIONAL SECURITY AFFAIRS

from the

NAVAL POSTGRADUATE SCHOOL
September 1988

ABSTRACT

This thesis describes and analyzes a possible deployment posture for the Soviet ballistic missile submarine force. It examines the proposition that the Soviet Navy will establish a point defense, labeled "Close Aboard Bastions" (CABs), for its ballistic missile submarine fleet within the Soviet claimed 12 nautical mile territorial sea. This is a logical derivation of the currently widely held view that the Soviets will establish a "bastion" defense for the strategic portion of their seagoing forces. The thesis concludes that the postulated CAB strategy is a viable option for the Soviet Union during a war that begins conventionally.

C.1

TABLE OF CONTENTS

I. INTRODUCTION -- 1

- A. PURPOSE -- 1
- B. METHODOLOGY -- 1
- C. ORGANIZATION -- 2

II. SOVIET BALLISTIC MISSILE SUBMARINE STRATEGY ----- 4

- A. INTRODUCTION -- 4
- B. EVOLUTION OF WEAPONS SYSTEMS ---------------- 5
- C. DEVELOPMENT OF A WITHHOLDING STRATEGY: THE BASTIONS -- 12
- D. THE ORIGINS OF THE WITHHOLDING STRATEGY ----- 13
- E. MANIFESTATION OF WITHHOLDING: THE BASTION THEORY -- 15
- F. BASTION EXERCISES AND OPERATIONS ------------ 23
- G. CONCLUSIONS -- 28

III. THE CLOSE ABOARD BASTION CONCEPT ---------------- 32

- A. INTRODUCTION -- 32
- B. TACTICAL MILITARY ADVANTAGES OF THE CAB ----- 33
- C. MECHANICS OF CAB DEFENSES ------------------ 39
- D. STRATEGIC ADVANTAGES OF THE CAB ------------- 51

IV. LEGAL AND POLITICAL RAMIFICATIONS TO THE CAB CONCEPT -- 60

- A. INTRODUCTION -- 60
- B. THE LAW OF THE SEA AND SOVIET NAVAL POLICY -- 61
- C. POLITICAL ADVANTAGES OF A CAB STRATEGY ------ 74

MONTEREY, CALIFORNIA 939

V. DISADVANTAGES OF THE CAB POSTURE ---------------- 80

A. INTRODUCTION ------------------------------------ 80

B. POLITICAL DISADVANTAGES OF THE CAB ---------- 94

C. CONCLUSIONS ------------------------------------ 94

VI. CONCLUSIONS ------------------------------------ 96

A. SUMMARY ------------------------------------ 96

BIBLIOGRAPHY -- 100

INITIAL DISTRIBUTION LIST -------------------------------- 105

THESIS DISCLAIMER

The views and judgments presented in this thesis are those solely of the author. They do not necessarily reflect official positions held by the Naval Postgraduate School, the Department of the Navy, the Department of Defense, or any other U.S. government agency or organization. No citation of this work may include references or attributions to any official U.S. government source.

I. INTRODUCTION

A. PURPOSE

This thesis examines the proposition that the Soviet fleet will establish a point defense for its ballistic missile submarine fleet within the Soviet claimed 12 nautical mile territorial sea. This is a logical derivation of the currently widely held view that the Soviets will establish a "bastion" defense for the ballistic missile submarine portion of their naval forces. This research effort focuses on what may be seen as a "planned progression" of the Soviet Bastion Concept, the tightening of the bastion position, and the subsequent freeing up of conventional general purpose forces for other missions.

B. METHODOLOGY

The three basic methods of research employed in examining this question are: (1) hardware analysis, (2) literature content analysis, and (3) trend extrapolation. All research and data were derived from unclassified sources. Earlier analyses by various specialists on the subject at hand are reviewed and examined to help define postulated Soviet SSBN defensive concepts. The term chosen to represent this deployment scheme is the "Close Aboard Bastion" (CAB).

C. ORGANIZATION

Although the primary thrust of this thesis is a discussion of the CAB concept, an introductory discussion of the evolution of Soviet military strategy, and nuclear strategy in particular, is necessary. Chapter II discusses the development of Soviet SSBN operations and doctrine since the 1960s, including the evaluation of the current (1988) Western estimate of Soviet SSBN capabilities and intentions, popularly known as the "bastion" concept.

Chapter III examines the evidence in support of the CAB construct in terms of military strategy, political control, international legal implications and Western anti-submarine warfare (ASW) capabilities and constraints. Chapter III argues the logic of the CAB as a plausible evolution in a thoroughly integrated Soviet nuclear strategy.

Chapter IV examines the potential pitfalls and risks of a Soviet CAB deployment strategy. The ability of Western forces to penetrate these defensive positions, the limited maneuver area for SSBNs positioned close along the Soviet coast and the CAB's potential vulnerability to Western strategic counterbattery fire, are problems addressed.

Chapter V discusses the possible ramifications of the CAB strategy for the future in context of the future Strategic Arms Reduction Talks [START] regime. In addition, the future role of the Soviet SSBN force is discussed in the framework of the CAB concept. Implications for escalation control and the U.S. maritime strategy are also reviewed.

Chapter VI provides a summary and conclusion. In addition, possible areas are identified which in the future may provide some further evidence supporting the existence of the CAB. To place the SSBN force strategy and doctrine in perspective, the larger military and political goals are summed in relation to support of the CAB concept.

II. SOVIET BALLISTIC MISSILE SUBMARINE STRATEGY

A. INTRODUCTION

Soviet military, including nuclear strategy, has evolved in a distinctly different way from that of the United States. The evolution of the Soviet Union's fleet of nuclear powered ballistic missile submarines (SSBNs) provides a clear example of this difference. In both weapons design and deployment, the Soviet force has displayed a logical progression toward a specific end: namely the creation of a secure strategic reserve, withheld physically and operationally to provide intrawar deterrence.

It is the purpose of this section to examine two major facets of the evolution of the Soviet SSBN force. First, first considered is the evolution of basic "hardware capabilities," from the Yankee class SSBN and the SS-N-6 submarine launched ballistic missile (SLBM) to the latest Soviet SSBN, the Typhoon and the SS-N-20 SLBM. Next considered is the evolution of the Soviet SSBN fleet's withholding strategy. By examining these two developments the next stage of Soviet SSBN evolution can become clear, namely the proposition that the Soviet Union will conduct SSBN withholding operations within the coastal waters of the Soviet Union.

B. EVOLUTION OF WEAPONS SYSTEMS

1. The Yankee Class Submarine

The Yankee class SSBN, introduced operationally in 1968, was the natural evolution of earlier Soviet ballistic missile designs, notably the nuclear-powered Hotel, and diesel-driven Golf classes. Two key advantages of the Yankee over its predecessors were a very much larger SLBM loadout (16 versus three weapons) and the ability to launch from a submerged condition.[1] The Yankee class capabilities met the demands of Soviet military doctrine of the period. That doctrine viewed "modern war" as one in which nuclear weapons played a decisive role. Marshal Vasiliy D. Sokolovskiy, editor of the first edition (1962 book) of Military Strategy expressed the contemporary Soviet views on the nature of a future world war:

> From the point of view of the means of armed combat, a third world war will be first of all a nuclear rocket war. The mass use of nuclear, particularly thermo-nuclear, weapons will impart to the war an unprecedented destructive nature.[2]

The role of the Yankee class in this "all or nothing" strategy was dictated, in part, by its weapons system. Table 1 displays the main characteristics of the Yankee class weapons system, the SS-N-6 Serb.

---

[1] James D. Watkins, Understanding Soviet Naval Affairs, Government Printing Office, Washington, D.C., 1985, p. 103.

[2] As cited in The Soviet Art of War, Scott, Harriet and William eds., Westview Press, Boulder Colorado, 1982 p. 175.

TABLE 1

YANKEE CLASS CHARACTERISTICS

Weapon System	Range	Warhead Yield	Accuracy (CEP[3])
SS-N-6 Mod I	2400 km	.5-1 megaton	1.3 km
SS-N-6 Mod III	3000 km	500 kilotons (2 RVs)	1.3 km

Source: The Military Balance, International Institute for Strategic Studies, London, England, 1988, p. 206.

The characteristics listed in Table 1 influenced the operating behavior of the Soviet SSBN fleet in two different ways. First, to be available for immediate strikes, patrol areas were limited to forward areas, subject to hostile Anti-Submarine Warfare (ASW) forces. Secondly the relatively low accuracy of the SS-N-6 meant that targets would be limited to "soft" counterforce or wide area countervalue objectives, e.g., Strategic Air Command (SAC) bomber bases, industrial concentrations and so forth. The combination of these two limitations made the Yankee only an evolutionary step in SSBN development, but a development which enabled the Soviet Union to implement not the preferred strategy, but an adequate one.

The Yankee patrol areas within striking range of the continental United States were necessarily at great distance from the Soviet Union. This meant that the Yankees had to transit waters patrolled by U.S. and Allied ASW forces. It followed that, faced with superior Western ASW capability, the survivability of the Yankee class could not be guaranteed. As a corollary, the Yankees on "forward patrol" were virtually faced with the choice of "using or losing" their SS-N-6s.

---

[3] CEP (circular error probable) is defined as radius of a circle centered on the target in which 50% of all weapons are expected to land.

2. The Early Delta Class Submarines: Delta I/II

The Soviet Union has traditionally relied on incremental weapon systems improvement. Incorporated in the construction of the Yankee class was a baseline nuclear power plant and engineering system which allowed for growth potential to replace the initial inferior weapon system. This early commitment to a single hull type enabled series production without requiring a massive retooling effort by the Soviet shipyards for subsequent improvements. The built-in room to expand the capabilities required in the future was and is a key design feature of Soviet systems.[4] Accordingly, even while the Yankee class was first being deployed, the design of its successor, the Delta class, had already been completed.[5] The Delta class resolved the two principal drawbacks of the Yankee. The Delta's SS-N-8 could strike from Soviet homewaters without necessarily making the dangerous transit through contested waters, and the missile itself carried a more capable warhead than the SS-N-6. On the other hand, as long as the Delta still utilized the basic propulsion and HME design of the Yankee, the first two series of the Delta class (Delta I and II), were no more able to elude acoustic detection than had been their Yankee predecessor.[6] The key to a secure open ocean submarine weapons system is the ability to avoid detection. The potential patrol areas for the Delta class, while greater in terms of area, did little to address the acoustic vulnerability problem. Any transit which exposed the Yankee and Delta classes to potential interception by Western ASW forces placed their survivability in question. Table 2 lists the main characteristics of the Delta/SS-N-8 weapons systems.

---

[4] Richard Haver, "The Soviet Submarine Force," James L. George, ed., The Soviet and Other Communist Navies: The View from the Mid-1980s, Naval Institute Press, Annapolis Maryland, p. 127.

[5] Jan S. Breemer, "The Soviet Navy's SSBN Bastions: Evidence, Inference, and Alternative Scenarios," Journal of the Royal United Services Institute, London England, March 1985, p.22.

The Soviet Union's incremental design philosophy is clearly seen in the development of the next series of the Delta class, the Delta III and IV.

---

[6] Tom Stefanick, Strategic Antisubmarine Warfare, Lexington Books, Lexington Massachusetts, 1987, p. 72.

TABLE 2

SS-N-8 CHARACTERISTICS

Weapon System	Range	Warhead Yield	Accuracy (CEP)
SS-N-8 mod I	7800 km	.5-1 Megaton	1.3 km
SS-N-8 mod II	9100 km	.8 Megaton	.9 km

Source: The Military Balance 1987-1988, IISS, London England, p. 206.

3. The Follow-On Delta Class: Delta III/IV

The next step in the evolutionary growth of Soviet SSBN platforms came via the enlarged Delta III and Delta IV variants. The continued combination of the existing Yankee-Delta hull configuration with more advanced missiles systems was noted by Deputy Director of Naval Intelligence, Richard Haver:

> The Yankee/Delta family of submarines represents the largest single production run of nuclear submarines in history. The Delta, a descendant of the Yankee designed in the middle to late 1950s, is still being produced. The Soviets settled on a basic design for large-scale production and then fitted improved weapon systems into the basic package and later into refitted and converted units. The Soviets have built 72 of these units with more to come.[7]

The improvements to the Delta missile system came via the SS-N-18, missile deployed in three variants, and the SS-N-23. The major improvements over the older missile systems included the use of Multiple Independently Targeted

---

[7] Haver, "The Soviet Submarine Force," p. 125.

Re-entry Vehicles (MIRVs), thereby increasing potential target coverage, and providing greater accuracy.[8] In addition the engineering plant in the Delta IV is more powerful than its predecessors.[9] Table 3 depicts the principal features of the Delta III/IV missile systems.

TABLE 3

SS-N-18/SS-N-23 Characteristics

Weapons System	Range	Warhead Yield	Accuracy
SS-N-18 mod 1	6500 km	500 kilotons (3 RVs)	1.4 km
SS-N-18 mod 2	8000 km	500 kilotons (1 RV)	.9 km
SS-N-18 mod 3	6500 km	500 kilotons (5 RVs)	.9 km
SS-N-23	8300 km	100 kilotons? (10RVs)	<.9 km

Source: The Military Balance 1987-88, IISS, p. 206.

4. The Typhoon

The Typhoon is the worlds largest nuclear submarine, with a displacement 25% greater than that of the U.S. Ohio class SSBN. Armed with 20 MIRVed missiles capable of striking all U.S. targets from pierside, it may be regarded as the ultimate Soviet weapon for implementing the strategy of a secure strategic reserve.[10] The embarked SLBM, the SS-N-20 is credited with a range of 8300 km and is estimated to be armed with between six and 12 re-entry vehicles.[11] Table 4 shows the characteristics of the Typhoon/SS-N-20.

---

[8] Stefanik, Strategic Antisubmarine Warfare, pp. 155-156.

[9] John E. Moore, ed., Jane's Fighting Ships 1986-87, Jane's Publishing Co., New York, New York, 1987, p. 535.

TABLE 4

CHARACTERISTICS OF THE TYPHOON

Weapon System	Range	Warhead Yield	Accuracy (CEP)
SS-N-20	8300 km	100 Kilotons	.5 km

Source: The Military Balance, 1987-1988, IISS, p. 206.

This latest Soviet SSBN development leads to several observations. First, the huge size of the unit provides the same growth potential that the earlier Yankee did 20 years prior.[12] Secondly, the key design features, long range and extreme size, have apparently not been utilized to expand the patrol areas to the ocean at large. Instead the Typhoon appears designed with an eye on extended and "local" under ice operations.[13]

---

[10] Moore, Jane's Fighting Ships 1986-87, p. 534.

[11] Watkins, Understanding Soviet Naval Developments, p. 100. Various sources cite from six to nine to 12 re-entry vehicles for the SS-N-20.

[12] Haver, "The Soviet Submarine Force," p. 126.

[13] Haver, "The Soviet Submarine Force," p. 126.

C. DEVELOPMENT OF A WITHHOLDING STRATEGY: THE BASTIONS

This section traces the evolution of the Soviet Union's SSBN withholding strategy, and associated defensive posture, generally known as the Soviet SSBN "bastion" strategy. The proposition that the evolution of a secure strategic reserve has been the ultimate goal of the Soviet SSBN force since its inception is examined and developed. It is further argued that this goal might culminate ultimately in the development of a CAB strategy.

1. Roles of the Soviet SSBN Force

Beginning in the late 1960s and early 1970s, according to Western analysts, Soviet strategic thought centered on several key concepts. First, the use of nuclear weapons in an initial counterforce role was recognized as a clear option in a confrontation with the United States.[14] Second, the Soviet Union recognized a need for a survivable strategic reserve for the purpose of a secure force for intrawar deterrence including the deterrence of U.S. second strike countervalue retaliation against Soviet cities.[15] While adapting the Svoiet strategic force posture to this new requirment, the Soviets seized upon their SSBNs as a key contributor to a strategic reserve.

---

[14] James McConnell, "The Soviet Naval Mission Structure: Past, Present, and Future," Soviet and Other Communist Navies: The View from the Mid-1980s, James L. George, ed, Naval Institute Press, Annapolis Maryland, p. 47.

[15] McConnell, "The Soviet Naval Mission Structure: Past, Present, and Future," p. 38.

D. THE ORIGINS OF THE WITHHOLDING STRATEGY

Western naval analysts and scholars have long sought to rank-order the various roles and mission that the Soviet navy may be called on to execute in time of war. A general consensus exists on the following ranking of missions developed by Robert W. Herrick:

> Deterrence in peace and war, primarily through strategic submarines, related to this role is the "function" of providing naval protection for the submarines.
>
> Protection of the homeland against seaborne attack, whether from amphibious invasion, strikes by aircraft launched from aircraft carriers, or missiles fired from naval platforms.
>
> Naval "combat support" for the coastal flanks of the ground forces of the USSR and other Warsaw Pact countries.
>
> Delivery by strategic submarines and long-range naval missile bombers of "operational" nuclear strikes against targets in the coastal areas located within the confines of the "sea and oceanic" theaters of military operations.
>
> Protection and promotion of the USSR's "state interest" at sea in peace and war.[16]

This hierarchy of roles and missions places a great burden on Soviet naval forces. To defend the SSBN force and attempt to attrite the West's SSBNs may be asking too much of submarines that are generally believed to be technologically inferior to those of the West. Despite disagreement among some Western analysts as to what may constitute the most important Soviet naval wartime requirement, i.e., "strategic strike" or "strategic defense" it is sufficient for the purpose of this thesis that it is a mission requirement that will be carried out to the best of Soviet ability.

---

[16] Robert Herrick, "Roles and Missions of the Soviet Navy: Historical Evolution, Current Priorities, and Future Prospects," James L. George, ed., The Soviet and Other Communist Navies: The View from the Mid-1980s, Naval Institute Press, Annapolis, Maryland, p. 27.

The initial evidence of a Soviet withholding strategy came from Western analysis of Soviet open source military literature in the early 1970s. James M. McConnell, an analyst with the Center for Naval Analysis, was probably the first to recognize that the Soviet SSBN force had assumed a key role in the Soviet concept of intrawar deterrence and war termination. The Soviets, according to McConnell, provided evidence of this intention with the introduction of the Delta SS-N-8 class submarines.[17]

By the summer of 1981, McConnell's findings had been widely accepted within and outside the U.S. Navy intelligence community. Then Director of Naval Intelligence, Rear Admiral Shapiro, reported at that time

> A surprising unanimity that the Soviets will utilize a majority of their General Purposes forces to support their SSBNs in protected sanctuaries. This SSBN Bastion strategy and its associated use of SSBNs as strategic reserve forces is becoming widely accepted by key Soviet analysts, both in and out of government.[18]

---

[17] McConnell, "The Soviet Naval Mission Structure: Past, Present, and Future," p. 47.

[18] "Report on Annual Office of Naval Intelligence Symposium," Office of the Director of Naval Intelligence, Ser. Op-009J2/135, 24 August 1981 p. 1.

Another analyst, Michael MccGwire, has since elaborated on the operational implications of this "bastion" strategy:

> The 1970s concept of operations was predicated on avoiding escalation to an intercontinental exchange: to achieve this the insurance force would have to be held secure against determined attempts by the enemy to draw down its numbers. This coupled with the requirement for effective command and control, meant that the insurance force would need to be deployed close to Soviet bases, where such defense could most easily be mounted, the force would also need missiles with the range to strike at North America from home waters.[19]

This withholding concept at once establishes both a need and method to ensure the survivability of SSBNs. Clearly, an important requirement for the Soviet SSBN fleet is survivability. Rather than disperse their fleet of Deltas in the greater than 30 million square miles of water that are theoretically available by virtue of the SS-N-8/SS-N-18's ong range, the Soviets have chosen to place them in sanctuaries adjacent to the Soviet Union.[20] The means of withholding is of secondary importance to the rationale, yet it is of critical import for the Soviet Navy.

E. MANIFESTATION OF WITHHOLDING: THE BASTION THEORY

An important strategic drawback of an SSBN withholding posture is that the resulting "fleet in being" becomes an extremely attractive target for an opponent anxious to gain war termination leverage. Accordingly, it makes sense for the Soviets to provide their SSBNs with a "layer" of active defense forces. James Tritten has pointed out that:

---

[19] Michael MccGwire, "Contingency Plans for World War," The Soviet and Other Communist Navies: A View from the Mid-1980s, James L. George, ed., Naval Institute Press, Annapolis, Maryland, 1985, p. 67.

[20] Donald Daniel, Anti-Submarine Warfare and Superpower Strategic Stability, University Press, Urbana, Illinois, p. 103.

> ...open literature evidence includes a declaratory policy for the active defense of Soviet SSBNs. Such a defense would bait Western navies to combat in areas chosen by the USSR. It would allow for protection of Soviet fleet assets and the homeland while simultaneously providing for the destruction of major enemy groupings. Calling this are of active defense a "bastion" seems proper.[21]

The extent to which the Soviet navy has committed its general purpose forces to a "pro-SSBN" mission has aroused much controversy among naval analysts. There are distinct schools of thought regarding the bastion concept. One, represented by Jan S. Breemer, is that adequate evidence for the wartime existence of the bastions is lacking.[22] The lack of explicit discussion by the Soviets on their own intentions for their SSBN force preclude definitive conclusions. The second--and dominant--school holds that the Soviets will protect their SSBNs in near home waters by way of a defense in-depth that extends 2000-3000 kilometers from the Soviet coastline.[23] This second argument is one of the key planning assumptions underlying the U.S. Maritime Strategy.[24]

---

[21] James J. Tritten, Soviet Naval Forces and Nuclear War, Westview press, Boulder, Colorado, p. 66.

[22] Breemer, "The Soviet Navy's SSBN Bastions: Evidence, Inference and Alternative Scenarios", p. 22.

[23] RADM William O. Studeman, Director Of Naval Intelligence, Testimony from House Armed Services Sub-Committee on Seapower and Strategic and Critical Materials, Washington D.C., 1 March 1988, p. 3.

1. Do the Bastions Exist?

Writing in the spring of 1985, Jan Breemer noted that, while naval analysts had reviewed a plethora of facts and Soviet literature, very little had been said by the Soviets directly to provide evidence that SSBNs would be shepherded into bastions.[25]

Breemer's arguments against the bastion concept are summarized in these three points:

1. The Soviet SSBN construction program has evolved towards large nuclear-powered platforms, with their incumbent high costs and greater capabilities. If the SSBNs are to be kept in bastions, Breemer argues the Soviets might arguably be better served by deploying their SLBMs in a larger number of smaller and conventionally powered missile carrying boats.

2. If ballistic missile submarines are to be placed in local bastion waters, the Soviets may have solved the West's most difficult ASW problem, i.e., finding the underwater opponent.

3. Coordinated Soviet defense of these bastioned SSBNs would be extremely difficult for the Soviet command and control system, a task in which target acquisition and prosecution would be exacerbated by false contacts etc.[26]

---

[24] The Maritime Strategy, James A. Barber ed., United States Naval Institute, Annapolis Maryland, January 1988, p. 7.

[25] Breemer, "The Soviet Navy's SSBN Bastions: Evidence, Inference and Alternative Scenarios," p. 22.

[26] Breemer, "The Soviet Navy's SSBN Bastions: Evidence, Inference and Alternative Scenarios," pp. 22-23.

In his skepticism on the Bastion theory, Breemer is not alone. Admiral Harry D. Train, former Commander in Chief Atlantic Fleet, is amongst those who question the bastion concept. Train cites the establishment of the "sea bridge across the Atlantic" as a key to Western success in Central Europe.[27] As a corollary, argues Train, disruption of the Atlantic SLOCs "must" be the Soviet Navy's priority. Yet the priority of a Soviet anti-SLOC campaign is discounted by most analysts.[28] Further, the appearance of the occasional Delta class making a South Atlantic deployment leads Admiral Train to question the wisdom of concluding that bastions are the order of the day for the Soviet navy.[29]

In sum, these analysts find that the bastion concept cannot be disproven, neither is the evidence sufficient to prove its existence as the Soviet de facto strategy for peace and war. While acknowledging the importance of analyzing Soviet military literature, Breemer cautions against overreliance on reading between the lines. This is a key point. The arcane world of Soviet doublespeak on any issue indeed makes absolute conclusions very difficult. In the instance of a fleet effort involving the entire, or "bulk" of the Soviet Navy's general purpose forces to protect the SSBN force, it would seem that the purists of literature analysis ignore the military reality of what type of naval campaign will impact a war fought in Western Europe. Allocating only minimal forces to engage in this type of traditional naval tasks makes little warfighting sense.[30]

---

[27] Harry Train, "Commentary," Soviet and Other Communist Navies: A View from the Mid-1980s, James L. George, ed., Naval Institute Press, Annapolis Maryland, 1985, p. 285.

[28] Soviet Military Power 1988, Department of Defense, Washington D.C., 1988, p. 83. Despite this majority opinion, this is an area of naval warfare that would directly contribute to the Soviet Army effort in Central Europe.

[29] As cited in Jan S. Breemer "The U.S. Maritime Strategy: A Reappraisal," Armed Forces Journal, May 1987, p. 5.

2. A Case For Bastions

The prevailing view of the Bastion concept is indebted, in large part, to the work of James M. McConnell. McConnell asserts that the ascendancy of the withholding strategy led the SSBN force to be equipped with the survivable withholding capability inherent in the Delta/SS-N-8 weapons system. The extreme range developed in that SLBM made the force "survivable to the last day of the war".[31]

Mcconnell's work in the early 1970s relied on political-military literature analysis and provided the initial evidence that the Soviets had adopted a withholding strategy. A student of the writings of Admiral Gorshkov, Mcconnell typically refers to the Soviet Admiral's statements in Gorshkov's book Seapower and the State, in support of the role of the importance of the SSBN fleet:

---

[30] Perhaps the Soviets are quite pleased with the Western interpretation of their SSBN strategy. After all, rare is the opportunity to plan for an opponent who dismisses the worst case as not being in line with a strategy that is only inferred at best.

[31] McConnell, "The Soviet Naval Mission Structure: Past, Present and Future", p. 47.

> It is particularly important to note that submarines have become the main branch of the forces of fleets. A major role is also played by the new strategic orientation of the fleets for struggle against the shore. All this is making more necessary the all-around backing of the actions of the forces solving strategic tasks. Therefore the struggle to create in a particular area of a theatre and in a particular time, favorable conditions for successfully solving by a large grouping of forces of the fleet the main tasks facing it and at the same time creating conditions such as would make it more difficult for the enemy to fulfil his task and prevent him from frustrating the actions of the opposing side will apparently be widely adopted.[32]

In addition many references in Soviet literature to "combat stability" and frequent criticism of the Germans in World War II for their alledged failure to provide combined arms support for their submarine operations leave a strong impression that the Soviets intend to provide defensive measures for their SSBNs.[33]

Michael MccGwire, incorporating a more catholic approach incorporating both hardware analysis and literature review, cites other evidence of a bastion scheme. Specifically, MccGwire raises these two issues:

---

[32] Sergei Gorshkov, Seapower and the State, Pergamon Press, London United Kingdom, 1975, p. 233. The statement "forces solving strategic tasks" is assumed to mean SSBNs by the author.

[33] "Combat stability" in the sense that survivability to carry out the mission is obviously critical. Further, the Germans in WWII operated their U-Boats alone without assistance of surface units or air cover.

1. Until such time as the missile submarines have fired all their missiles or have been deployed to open ocean, they must be kept secure against attack--this has led to the concept of defended ocean bastions.

2. If the submarines have been deployed, they must be able to transit Western antisubmarine barriers in reasonable safety and to survive attempts to find them in the open ocean: this raises a requirement for support forces.[34]

MccGwire has also pointed out that the plethora of Soviet surface ships built since 1965 through the late 1970s have a strong ASW orientation. MccGwire initially attributed the new generation of ASW combatants to a Soviet "anti-SSBN" mission, but subsequently concluded that the new classes embodied the new "pro-SSBN" protection requirement. In any case, strategic ASW against U.S. SSBNs was, and is, beyond the capability of the Soviet navy.[35]

Belatedly allowing for the importance of SSBN protection, MccGwire acknowledged, in the late 1970s, the bastions as a necessary requirement for SSBN protection. He does not believe, however, that this is a permanent state of affairs. MccGwire cites development of other survivable strategic systems as evidence that the SSBN is only part of a strategic reserve, and that road mobile and rail mobile systems may end the need for a bastion strategy.[36]

---

[34] Whether the SSBNs require a convoy to be safely shepherded out into the open ocean is not the only issue here. There might be a further mission for support forces to breach Western defenses to allow the SSBNs to sortie. Michael MccGwire, "Soviet American Naval Arms Control," Quester, George, ed. Navies and Arms Control, Praeger Press, New York N.Y., 1980, p. 54.

[35] Stefanick, Strategic Antisubmarine Warfare, p. 72.

In terms of shipbuilding programs, larger surface units were required, not to enhance anti-carrier warfare capabilities, but to increase pro-SSBN ASW capabilities out to 2500 kilometers [the range of the Tomahawk cruise missile].[37] The largest Soviet combatants have considerable ASW capability at the expense of strike warfare. The Vertical/Short Takeoff and Landing [VSTOL] carriers all carry Yak-36 Forger aircraft, but more importantly are equipped with hull mounted and variable depth sonars.[38]

The trend to build units which can adequately support the bastion defense can be traced to other types of Soviet naval units as well. The Il-38 May as and the Tu-95 Bear F aircraft have improved the capability of Soviet Naval Aviation (SNA) for open ocean ASW surveillance and tracking. Even so, those assets continue to be greatly hampered by lack of cuing information, and quieter Western targets.

Various other authorities cite Soviet naval operations and construction programs as proof positive that the Bastion concept is in fact Soviet strategy.

---

[36] MccGwire, "Contingency Plans for World War," p. 75.

[37] M.L. Miller, "Why Is There A Soviet Navy," Armed Forces Journal International, April 1987, p. 36.

[38] Moore, Jane's Fighting Ships 1986-87, p. 556.

The U.S. Naval Institute has also published numerous articles endorsing the bastion theory. Three pertinent excerpts are cited below.

> The Soviets have also always envisioned that their sanctuary based SSBNs would be protected by a portion of their general purpose naval and land based air forces.[39]
>
> From a military prospective, virtually all the following missions outlined by Defense Minister Yazov promise to become more complex and expensive in the coming years.
>
> The protection of SSBNs, involves major investments in antisubmarine warfare systems, including nuclear-powered attack submarines, advanced sensors, ASW aircraft and surface ships, and the other surface forces needed to protect them and the SSBNs themselves.[40]

F. BASTION EXERCISES AND OPERATIONS

Analysis of the way in which the Soviet navy deploys and exercises its units may offer clues to its warfighting style. Generally speaking, Soviet naval exercises take place East of 15 degrees longitude and North of 60 degrees latitude in the Atlantic and West of 160 East Longitude in the Pacific.[41] This is somewhat analogous to the United States Navy exercising well East of Hawaii and West of Bermuda.

In evaluating the exercises location it seems that sea denial is what the bulk of the Soviet Navy is appears preparing to engage in war time. Sea denial is best defined as "the converse of sea control, denying your opponent a limited area for a limited time, while not actually controlling it yourself."[42] The degree to which this is of absolute importance is undeterminable. What is of importance is whether the "standard" ocean areas for Soviet naval exercises reflect merely a convenient place to practice, or if they are indicative of planned theaters of wartime operations.

---

[39] Rivkin, "No More Bastions for the Bear," United States Naval Institute Proceedings, April 1984, p. 37.

[40] Richard L. Haver, "Soviet Navy Perspectives," USNI Proceedings, May 1988, p. 236.

[41] "NATO Review 1985," Supreme Allied Commander Atlantic, Norfolk Virginia, 1985, pp. 7-9.

1. Exercises

In terms of exercises, the Soviet navy has provided several major demonstrations of their at-sea operations in recent years. In reviewing SPRING-EX 84 and SUMMER-EX 85, it appears these evolutions were primarily oriented towards exercising a sea denial role by the Soviet fleet.[43] Since repelling U.S./NATO incursions into the areas adjacent to the Soviet Union would not only serve to defend Soviet territory, but also the SSBNs, the further forward these exercises (operations) take place the more apt they are to be effective. Tritten is one of those who has pointed out that protection of the bastion is not necessarily limited to defensive operations:

---

[42] R. Van Tol, "Soviet Naval Exercises: 1983-85," Naval Forces, Vol. VII, No. 6, July 1986, p. 29.

[43] Van Tol, "Soviet Naval Exercises: 1983-85," p. 29.

> Bastion defense may be defensive strategy, but involves aggressive tactics and offensive operations. Bastions will not be passively defended. Defense of bastions may take place in the conventional phase of the armed struggle even though the primary object of attack by the West and subject of defense by the Soviet Union are nuclear forces.[44]

Thus while an area defense exercise may appear to be defense of the bastions by virtue of taking place in a particular area, Soviet naval exercises need to be evaluated less for their location, and more for their scope of operations and degree of coordination between units.

2. Operations

It is very difficult to define the operational tempo of the Soviet SSBN fleet. Clearly the Soviets keep a much smaller percentage of their forces at sea than does the United States.[45] The Soviets seem to maintain 28 of 62 SSBNs in an alert status vice an advertised over 50% of U.S. SSBNs. Several reasons are possible for this difference. First, the Soviets may believe that there is no threat significant enough on a day-to-day basis to warrant the at sea capability for an assured countervalue second strike.[46] Second, the Soviets may not be capable of maintaining the

---

[44] Tritten, Soviet Naval Forces and Nuclear War, p. 98.

[45] ADM James D. Watkins, testimony before the House Armed Services Committee, FY 1986, Part 2, p. 927.

[46] A number of arguments can be made to support this assertion. First, the U.S. national character precludes such an attack, even in the most extraordinary circumstances. Second, in any plausible scenario, increasing tensions and mobilizations on both sides would be expected as a precursor to hostilities by the Soviets and the West.

SSBN fleet in the high state of material readiness necessary for units were constantly on patrol.[47] Third, the Delta/Typhoon boats in port could be considered available for use, and, if their operating areas are close by, even a relatively short crisis and tension-building period could permit a rapid "surge."[48]

The concept of maintaining a constantly alert and fully deployed secure second strike is only required if an attack by a potential opponent is considered within the realm of reason. For the Soviet Union, with the United States as the potential assailant, a devastating surprise attack may be considered a highly improbable occurrence. This alone would justify having very few units in firing position or on patrol per se. High readiness to deploy in case of a crisis may be a sufficient precaution from the Soviet point of view.[49]

The extensive wear and tear on SSBNs constantly on patrol may exceed the capabilities of Soviet repair facilities. The Ministry of Shipbuilding is separate from the Navy and, as throughout Soviet society, it is preferable to fulfill the central plan by producing new units rather than maintain old ones. The high demand for not only uniformed nuclear reactor specialist, but also repair and rework personnel may be sufficient cause alone to maintain higher material readiness in port vice running down complex equipment at sea.[50]

---

[47] Bryan Ranft, The Sea in Soviet Strategy, Naval Institute Press, Annapolis, Maryland, 1987, p. 170.

[48] Stefanick, Strategic Antisubmarine Warfare, p. 34.

[49] Watkins, Congressional Testimony, FY 1986 HAC, p. 928.

This does have its drawbacks however when it comes to crew proficiency. The lack of practice at operating could be a major problem, if operating is a major factor in executing a wartime role. If "operating" consists of manning what the Deputy Director of Naval Intelligence has referred to as "a missile barge," little at-sea time could be inconsequential.[51] Admiral James Watkins, former Chief of Naval Operations had this to say regarding Soviet submarine crew efficiency:

> Soviet crews decry the fact they don't get enough at-sea training time. They bitch about it in the documents and we see the results. In the last ten years, they have had over 200 submarine accidents, some of which have been very serious. They have lost submarines, had fires, had real problems.[52]

The final reason for low SSBN at sea rates may lie in the fact the Soviets may utilize the SSBNs in port like floating missile batteries. Not only is the range sufficient for this purpose, but defense measures are also being taken to support Soviet SSBN in-port survivability. This includes the construction of tunnels in which SSBNs can ride out attacks, similar to the submarine pens built by the Germans in World War II.[53]

---

[50] Stefanick, Strategic Antisubmarine Warfare, p. 34.

[51] Haver, "The Soviet Submarine Force," p. 126.

[52] Watkins, Congressional Testimony, FY 1986 HAC, Part 2, p. 928.

G. CONCLUSIONS

There is an almost irreconcilable difference between what the Soviet navy says its primary mission is and what types of general purposes forces it is building. The Soviets, having achieved the ability to employ SLBMs from within their territorial seas, no longer have to contend with dangerous transits and patrols for strategic forces. The massive amounts of Soviet literature supporting pro-SSBN operations, defense of the homeland, and the need to support submarines cannot be denied. Nor can the large, bluewater capabilities and efforts of the Soviet Navy.

The type of navy needed to defend the SSBN fleet in homewaters exists in the Soviet navy today. However, along with the coastal ASW and robust mining forces at the Navy's disposal there exists a second Soviet navy.

This second navy, the open ocean blue water portion of the Soviet fleet, is capable [or is rapidly obtaining the capability for] of all the things that naval power has traditionally served. Power projection and more importantly, "cruiser warfare" or Sea Lines Of Communication (SLOC) interdiction are now missions the navy can execute in support of Army operations in the Central Front, Central

---

[53] Military Power 1986, Government Printing Office, Washington D.C., 1986, p. 21.

Europe. But these naval tasks can only be carried out if general purpose forces are re-assigned away from the open ocean pro-bastion mission. This thesis argues that the Soviet SSBN fleet can be safely and adequately protected by the numerous Soviet coastal vessels, in concert with Land Based Air (LBA). These forces can, and will protect Soviet SSBNs in the shallow coastal waters during a conventional war. The hypothesis to be examined is that, by establishing the bastions within the claimed territorial waters of the Soviet Union, minimal force will be required to maintain the requisite "combat stability" for SSBNs. This type of bastion, a Close Aboard Bastion defined as in which one boundary of the bastioned area includes the Soviet landmass, has available land based tactical air cover, and lies within Soviet territorial seas. The utilization of CABs to protect the SSBNs will allow the Soviets to provide maximum leverage on the most likely theatre of warfare: the Central Front.

The origins of the CAB strategy lie in Soviet thought. Bradford Dismukes has pointed out that the Soviets have a proclivity to telegraph their intended operations via statements regarding the purported goals of the United States Navy.[54] If this is valid, the repeated discussion of

---

[54] Bradford Dismukes, "Introduction," Soviet and Other Communist Navies: A View from the Mid 1980s, Willam L. George ed., Naval Institute Press, Annapolis, Maryland, 1985 p. 7.

U.S. coastal operations for various U.S. SLBM platforms is a key to Soviet plans for their own SSBN fleet.[55]

Writing in the Winter of 1972, Captain First Rank Yerofeyev pointed out the advantages of a SSBN force deployed in coastal waters:

> The need is removed to employ the highly vulnerable system of forward basing of SSBNs in England, Spain, and the island of Guam. The disposition of control, communications and less wear and tear on propulsion systems and transit times makes this optimal.[56]

Further, Captain Yerofeyev pointed out that "since a naval intercontinental missile has not yet developed," it is unavoidable for the U.S. to utilize this forward basing strategy.[57] It was at this time the Delta class and SS-N-8 were being deployed which could take advantage of its inherent range to operate in Soviet coastal waters.

In the late 1970s as the United States studied various platforms in an effort to determine the optimum basing mode for the yet to be developed MX missile, the Soviets took this occasion to again tout the advantages of a coastal deployment strategy:

> Operating from launch areas near the North American continent, the minisubs can be screened reliably by the

---

[55] Inter alia, Ye. Rakitin, "Trident Is Being Improved," Morskoy Sbornik, June 1980, p. 82 and L. Yerofeyev, "Naval Intercontinental Missiles," Morskoy Sbornik, January 1972, p. 51.

[56] Captain First Rank Yerofeyev, "Western SSBNs," Morskoy Sbornik, January 1972, p. 51.

[57] Yerofeyev, "Western SSBNs," p. 51.

> continental antisubmarine defenses and can obtain all kinds of support.[58]

This could be construed a number of ways. First, the Soviets could be telling their own officers a coastal strategy was best and it afforded the optimal protection of SSBNs. Secondly, the Soviets could be pointing out that they first held the option to execute a coastal strategy with the long range built into their SS-N-8 system. Lastly, it could be signalling to the Soviet naval officers that their strategy was "scientifically" correct, and that the West was attempting to copy Soviet operations.

Throughout any examination of Soviet SSBN forces it should be realized that the Soviet Union has said very little regarding the specific strategies or operating areas for their SSBN force. It would not be prudent for them to do so for a number of reasons. The following chapters will attempt to examine and reconcile the various options and drawbacks of a CAB strategy for the Soviet Union.

---

[58] Ye. Rakitikin, "Trident Is Being Improved," Morskoy Sbornik, June 1980, p. 83.

III. THE CLOSE ABOARD BASTION CONCEPT

A. INTRODUCTION

This chapter defines, explores and argues the case for a Close Aboard Bastion strategy for Soviet SSBNs as a strategy optimized for a conventional war-fighting environment. In terms of nuclear war, the utility of the CAB is a function of the Soviet proclivity to initiate the nuclear exchange. Namely, were the Soviets to plan for immediate use of nuclear weapons, it would make little sense to deprive themselves of a key surprise attack option via the CAB concept. It will be shown that the Soviets are able to find merit in the CAB concept in military terms, both tactical and strategic. In particular, it is argued that the CAB concept reconciles the apparent paradox between Soviet defensive force withholding requirements on the one hand and the large capable "bluewater" fleet currently operated on the other.

In discussing the benefits of a CAB strategy it must be realized that every truly effective strategy is a set of choices made to optimize the chances of success in a given environment. In the CAB strategy, the Soviets make a clear choice as to which type of strategy and environment they are opting for: fighting a conventional war while holding their SSBNs in positions which make conventional attack very difficult. Further, this frees substantial forces for other missions, a key factor in conventional warfare.

The military advantages to the Soviet Union in employing the CAB strategy are many. They fall into two categories: (1) direct support tactical benefits; and (2) strategic advantages. In terms of direct support, this category includes factors which will directly assist in protracted SSBN survivability, enhance command and control functions, ease resupply, and simplify defense options. Several strategic advantages exist for the Soviets. First, the CAB strategy frees Soviet general purpose forces to execute "traditional" naval missions, (specifically interdiction of SLOCs). Secondly, A CAB posture strengthens the Soviet case for bartering away SSBNs in a future Strategic Arms Reduction Talks [START] treaty in place of mobile systems, yet undermining via treaty the key component in Western deterrent strength, i.e., the SSBN fleet.

The following sections highlight the various tactical areas strengthened by a CAB strategy. Included are command, control and communications, logistics, tactical defense and resistance to the risk of a Western nuclear barrage.

B. TACTICAL MILITARY ADVANTAGES OF THE CAB

1. CAB Command and Control

The Soviet SSBN positioned within the territorial seas of the Soviet Union in a CAB would benefit from extremely reliable command and control. This command and control would include all long range systems, satellites, high frequency circuits and ultra low frequency (ULF) transmissions, in addition to line of sight communications. Since some CAB positions may be thousands of kilometers from communication nodes, the full range of Soviet communication capabilities may be utilized if necessary. The addition of ultra-high frequency (UHF) and very high frequency (VHF) circuits available for SSBN control is an important addition to SSBN connectivity.

The Soviets have made several advances in long range transmission devices, notably a version of the Tu-95, the Bear J, which mirror-images the U.S. Navy EC-130Q TACAMO capability.[1] While these aircraft could transmit messages to SSBNs, they could also be utilized to transmit messages to general purpose Soviet submarines regarding locations of NATO re-supply convoys. It may be a key mistake to assume a Tu- 95 Bear J communications aircraft has the same clientele as does its U.S. counterpart. Tactical submarines can be served as well by VLF communications as can their strategic counterparts.

Soviet plans for employing SSBNs positioned in CABs would include participation in either a second strike (countervalue) or as part of a strategic reserve.[2] In either type of use, it is fair to assume major damage may have been done to the Soviet strategic communications systems.

---

[1] Soviet Military Power 1988, Government Printing Office, Washington D.C., 1988, p. 48.

[2] Ranft, The Sea in Soviet Strategy, pp. 168-169.

In the event a large electromagnetic pulse (EMP) generating weapon is detonated, high-frequency communications will be degraded due to changes in the ionosphere which may last hours.[3] Damage to satellites could range from degradation to destruction. Even in event of catastrophic damage (meaning post counterforce) to the Soviet C3 architecture, UHF and VHF communications would be available almost instantly following such destruction. The time to transmit new targeting packages and execute a second (or third) strike would be available. In addition, the ability to verify that the SSBN still existed and was capable of responding to targeting requirements, would greatly aid the generation of follow-on attack planning. This instantaneous updating of SSBN status and availability is not obtainable in any other deployment scheme. Table 7 shows some impacts of electro-magnetic pulse on various communications media. No nation operating SSBNs desires an extended period of time in which the SSBN is out of communication with National Command Authority (NCA). Keeping the SSBNs on call in a CAB (while maintaining reliable

---

[3] Samuel Glasstone, and Philip Dolan, eds., The Effects of Nuclear Weapons, United States Departments of Defense and Energy, Government Printing Office, Washington D.C., 1977, p. 485.

TABLE 7

EFFECTS OF NUCLEAR DETONATIONS ON COMMUNICATIONS

Frequency Band	Duration	Range
Very Low Frequency	Minutes to Hours	1000s km
Low Frequency	Minutes to Hours	1000s km
Medium Frequency	Minutes to Hours	1000s km
High Frequency	Minutes to Hours	1000s km
Very High Frequency	Minutes	Up to 100s km
Ultra High Frequency	Seconds	Up to 10s km

Source: Nuclear Weapons and Effects, Samuel Glasstone ed., United States Department of Defense and Energy Research and Development Administration, Washington D.C., 1977, p. 490.

communications) would reduce the ambiguous nature of an SLBM launched from open ocean. This close control is well within the conjectured constraints of the Strategic Rocket Force being closely monitored by the Committee for State Security (KGB) for weapons release procedures.[4]

2. CAB Resupply

Logistics support for the SSBN force is of key import in only two circumstances. First, a situation could be envisioned where the strategic reserve is held for a relatively long time during a protracted war. In this case, rather mundane necessities such as food, spare parts mail, etc, would need to be delivered to the SSBN in the CAB. In the second instance, a scenario which involved some nuclear exchanges, a rather more complex effort to reload (or replace due to maintenance problem) the SLBMs in the main battery might be required. In either event, a war of any length will require that some logistic support will be necessary.

---

[4] Coincidentally, the KGB operates its own coastal navy--in a CAB concept their role with regard to control of the Strategic Rocket Force could be duplicated in a maritime fashion. Stephen Meyer, Controlling Nuclear Operations, (Ashton B. Cartere ed.), Brookings Institute, Washington D.C., 1987 p. 492.

Re-supply of "housekeeping" requirements can be accomplished by way of vertical replenishment. This could also be done via ship, although that would lend itself to greater risk counterdetection due to the presence of a supply ship in CAB waters. Since the CAB would be well within massive fighter cover available from the PVO Strany, the logistics aircraft would be in no danger. Interestingly enough, the Soviets continue to operate 90 seaplane aircraft.[5] The Be-12 Mail could be well suited to delivering supplies to a coastal SSBN. While not listed as cargo aircraft, these units could serve a wartime logistics role.

This replenishment would be an outstanding opportunity for the Soviet navy to engage in "maskirovka." In deceiving the West about the locations along the Soviet coastline where the SSBNs were actually positioned, the Soviets could prepare "ambushes" for forward patrolling Western SSNs. Helicopters traveling to remote bays and estuaries and dropping off containers could confuse U.S. sensors attempting to discover actual SSBN locations. Similarly, coastal shipping could be employed in deceptive operations. The degree to which ice-free waters are available dictates, to some degree,the manner of replenishment but clearly such logistics support is accomplished with greater ease than returning SSBNs from the high seas. Such a transit would expose SSBNs to precisely the type of threat the CAB protects them from.

---

[5] Understanding Soviet Naval Developments, Department of the Navy, Washington D.C., 1985, p. 140.

The Soviet navy has built and deployed a ship which has the capability to reload SLBMs at sea. The Alexander Brykin class, of which only one exists, lends further credibility to a CAB strategy. First, an auxiliary ship capable of transporting 72 SLBMs to SSBNs transiting through high seas makes a target that is highly attractive.[6] Loss of such a ship could prove crippling in terms of losses of SLBMs.

Secondly, this situation implies that the SSBN being replenished has depleted its initial load-out in a first exchange. If so, it seems a fair assumption that United States Strategic Command, Control, Communication and Intelligence (C^3I) capabilities will have been adversely affected by the initial missile exchanges.[7] While strategic C^3I assets may have been degraded, certainly some tactical sensors will remain, and thus a threat would be posed by Western forces beyond the protection of coastal forces.

---

[6] Soviet Military Power, pp. 48-49.

It is not a gross assumption to believe that at this juncture (following an intercontinental exchange) transiting such a ship through coastal waters could be accomplished in relative safety. All the advantages in a CAB defense would benefit the Brykin as it re-supplied various SSBNs in coastal waters.

Logistics support takes on a whole new meaning when it is recognized what requirements would exist for a protracted forward naval defense in depth of the Soviet Union. Maintaining the forward deployed forces on station in order to provide defense-in-depth in key areas requires an underway replenishment capability the Soviets do not have. The CAB enables the Soviets to defend the SSBNs without overtasking their limited logistics forces.

C. MECHANICS OF CAB DEFENSES

The defense of the CAB does not require the majority of the general purpose forces of the Soviet navy. It does require the Soviet navy execute several missions which are well within its grasp. The defense of the CAB is a very simple concept--at least in principle. In relatively shallow water, mining can be highly effective. Local landbased air cover can provide defense against a variety of threats. Coastal ASW patrol craft could defend against another danger, namely, the intrusion of hostile fast attack nuclear powered submarines (SSNs). In addition, such coastal vessels can provide a powerful anti-surface warfare (ASUW) capability via their cruise missile batteries. The types of forces required to execute the CAB strategy are in the Soviet navy today.

---

[7] C^3I facilities which are not attacked in a counterforce missile exchange may be attacked by Soviet special forces, spetsnaz.

1. Mine Warfare and the CAB

It is widely acknowledged that the Soviet Union possesses a huge stockpile of naval mines.[8] Defensive mining support of a CAB deployment pattern would certainly require a great many mines; moreover, it would be prudent for the Soviet planner to prepare more CAB positions than there are SSBNs. The creation of redundant CAB locations gives flexibility to SSBN operations, allowing for movement between bastion positions. Further, this provides, in a way similar to the "shell game" MX missile basing scheme, a degree of ambiguity in SSBN location.[9]

The geography of the hypothesized CAB locations is conducive to defensive minelaying. First, the mines may be deployed during peace time. Since the mines will be placed in Soviet internal seas, no international law will have been breached.[10] Secondly, the areas to be mined are relatively shallow. The vast majority of sea areas that are candidates for CAB locations lie well within the two hundred meter depth range.[11] In this situation the Soviets could employ both bottom and moored mines, leaving very little room for an intruder to maneuver in. Lastly, the defensive mining could be conducted in such a way as to give each SSBN some degree of maneuver space.

---

[8] Ranft, The Sea in Soviet Strategy, p. 96.

[9] This would be a sea-based version of the Multiple Protective Shelter (MPS) MX missile basing proposal, colloquially known as the MX "shell game."

2. CAB Anti-air Warfare and Western Aviation ASW

Key characteristic of the U.S. and Allied ASW effort is the high level of integration of air assets. To a large degree, these aircraft are defenseless. While this does not preclude their use in a forward hostile environment, aircraft attrition would be a significant problem. The ability of these aircraft to search for SSBNs in a CAB, operating within range of Soviet land-based aviation could mean unacceptable losses.

---

[10] The Soviets, while signatories to the Third United Nations Convention on the Law of the Sea (UNCLOS III), unilaterally reserve the right to suspend the right of innocent passage through Soviet territorial waters, "Territorial Waters of the USSR," Decree No. 384, Council of Ministers, 28 April, 1983, Article 6.

[11] The large bodies of open sea claimed by the Soviets as internal waters includes almost every bay and indentation on the Soviet coastline, including almost completely the 200 meter isobath. "Limits of the Seas," United States Department of State, Series, 800491.

The PVO Strany, the Soviet command tasked with providing air interceptor defense of the Soviet Union is largely geared toward intercepting and destroying B-52s at high subsonic speeds.[12] Despite some well-publicized shortcomings in Soviet air defenses, not the least, of which was the arrival of a Cessna 172 in Red Square, PVO Strany should be more than able to deal with the West's relatively slow maritime patrol aircraft (MPA). Currently equipped with 2,250 fighter-interceptor aircraft, PVO Strany includes increasing numbers of Il-76 MAINSTAY Airborne Warning and Control Systems (AWACS) aircraft which can provide control for aircraft not directed by land-based radars in the ground controlled interceptor role [GCI].[13]

The destruction of aircraft that intrude into CAB airspace could be accomplished via other means currently in the Soviet military inventory. Shore-based surface to air missiles, could eliminate aircraft before an ASW investigation could even begin. Similarly, some Soviet navy coastal patrol craft are equipped with air defense weapons, any of which are capable of destroying ASW aircraft.

The Soviet Union has a large coastal patrol force capable of minelaying and sweeping, as well as ASW. In these two roles coastal forces would play a key role in defending the CAB. Commenting on the coastal-patrol forces, James J. Tritten notes that, "Coastal-patrol combatants have capabilities well out of proportion to their cost or size."[14] The CAB role is one that can fully exploit those capabilities. Tritten goes on to add that:

---

[12] Soviet Military Power 1988, p. 100, and Frank Carlucci, Annual Report to Congress 1988, Government Printing Office, Washington D.C., 1988, pp. 236-237.

[13] Soviet Military Power 1988, pp. 81-82.

> Most of the Soviet Navy's coastal-patrol forces are oriented toward antisubmarine or anti-surface warfare. Coastal defense would be performed by more than these small combatants, however. Onshore missile batteries, defensive minefields, and supporting airpower can all be brought to bear on control of the adjacent seas.[15]

A review of Soviet coastal craft can provide some insight as to what missions they may be able to execute. While as noted below some of these units are be posted to the shallow water fleets of the Baltic and Black Sea, 430 ships would be available for CAB defensive duties in the Northern and Pacific fleets which operate SSBNs. Table 8 cites the 1986 deployment of coastal craft among the various Soviet fleets.

It is instruction to construct a notional CAB defensive flotilla in order to better appreciate the types of capabilities these small units may bring to bear. Bearing in mind that each fleet might choose to establish several "maskirovka" bastions without an SSBN, more "CAB flotillas" would need to be formed than there are SSGNs/SSBs. Also,

---

[14] James Tritten, "Soviet Amphibious, Mine and Coastal Patrol Forces," _Soviet and Other Communist Navies: A View from the 1980s_, William L. George ed., Naval Institute Press, Annapolis, Maryland, 1985, p. 160.

[15] Tritten, "Soviet Amphibious, Mine and Coastal," p. 160.

TABLE 8

HOMEPORT BY FLEET OF COASTAL WARFARE VESSELS

Vessel Type	Northern	Pacific	Black Sea	Baltic
Light Forces	25	90	130	115
Mine Warfare	60	90	90	90
Missile Boats	25	45	45	25
Light Frigates	45	50	45	25
Totals	155	275	310	255

Source: Jane's Fighting Ships, 1986-87, pp. 577-592.

different mixes of CAB flotillas might reflect the specific defense required of a given area, i.e., heavier emphasis in ASW versus mine warfare, etc.

First, Table 9 lists the primary "installed" warfare capabilities of the Soviet navy's coastal defense forces.

Added to the inventory of "active fleet" CAB defensive forces could be substantial numbers of combatants normally held in reserve.[16]

A "notional" coastal flotilla charged in the defense of a CAB position might include the following:

1. Petya Class Light Frigate: Serving as the flotilla commander's flagship, the Petya towed sonar would serve as the outward guard against hostile SSN forces.

---

[16] Tritten, "Soviet Amphibious, Mine and Coastal Patrol Forces," p. 160. Jane's reports about 80 Soviet ships in reserve which could be utilized for CAB defense. Many of these are conventionally powered submarines.

TABLE 9

SOVIET COASTAL VESSEL TYPES AND CAPABILITIES

Unit	ASW Weapons/Sensors	AAW Weapons
Grisha	ASW Rockets/Depth Charges Hull and dipping Sonar	SA-N-4
Mirka	Torpedoes/Hull and Dipping Sonar	Dual-purpose 57mm Gun
Petya	ASW Rockets/Depth charges, torpedoes/76mm Gun Hull mounted Sonar	Dual-purpose
T-58	ASW Rockets/Depth charges/ Hull mounted Sonar	Dual-purpose 57mm
Unit	Anti-submarine Warfare	AAW/ASUW
T-43	Depth charges/Hull mounted Sonar	Dual Purpose 37mm
Pauk	ASW Rockets/Depth charges Dipping Sonar	Dual-Purpose 76mm
Turya	Depth Charges/Dipping Sonar	Dual-Purpose 57mm
Poti	Torpedoes/ASW Rockets	Dual-Purpose 57mm
Stenka	Torpedoes/Depth charges Dipping sonar	AAW 30mm

Source: Jane's Fighting Ships 1986-87, pp. 580-588.

2. Matka Class Missile Hydrofoil: Equipped with SS-N-2 Styx missile system, this unit would be the anti-surface platform.

3. T-43/PGR: The long range air search radar would serve as organic threat warning and control of CAB air assets.

4. Nanuchka Class Missile Corvette: The point air defense capability aboard this unit provides the CAB force with organic AAW capability, while the long

range of its anti-surface battery could be useful as well.

5. Poti Class Patrol Craft: A final vessel incorporating both ASW and limited AAW in one hull.

While this sample force does not include logistics ships, the many auxiliaries and amphibious warfare ships in all fleets could be pressed into service in this role. The total number of coastal combatants, 430 (Table 6) could form 86 notional flotillas. This would allow for about 20% of these ships to be in repair, transit, or in "maskirovka flotillas" at any given time.

While the smaller coastal vessels may not be equipped with the most modern or sophisticated sonar systems, this disadvantage is offset, to a degree, by local advantages in geography and hydrography. The shallow water ASW problem, a very difficult tactical situation for both Soviet and U.S. forces, would greatly work to the Soviets favor. No doubt, the waters in question would have been acoustically surveyed and mapped by the Soviet Union. U.S. SSNs, by contrast, would frequently be ignorant of local underwater topography and acoustic conditions.

The SSBN will be a difficult target while remaining submerged and immobile. The most detectable sources for SSNs searching may be eliminated by operating only those "hotel" services required to maintain crew habitability and weapons systems readiness.[17] In this way even a relatively noisy SSBN could operate covertly within a CAB.

Finally, shallow water ASW against suspected CAB locations would entail contending with high levels of ambient noise. Since many of the CAB positions would be located within the marginal ice zone, the additional noise of the grinding and crushing ice would greatly hamper strategic ASW efforts by the West. Tom Stefanick has pointed out in his book, Strategic Anti-Submarine Warfare and Naval Strategy, that "there is little prospect of U.S. area acoustic surveillance of the Soviet marginal seas."[18]

Lastly, SSBN noise levels could be "masked" by the coastal patrol vessels guarding the CAB positions via noise making decoys or own-ship acoustic signature.

4. CABs and ICBM/SLBM Counterbattery Fire

A potential CAB defensive drawback is the risk of preemptive U.S. counterbattery fire by ICBMs, SLBMs or aircraft delivered nuclear weapons. From the military standpoint, barraging all known CAB locations with nuclear weapons does not appear to be a practical Western option. The reason for this appraisal is the following: first, the target set of 62 SSBNs would presumably be distributed along the 25,000 miles of Soviet coastline.[19] This means the that the total target area amounts to:

---

[17] Stefanick, Strategic Antisubmarine Warfare, p. 266.

[18] Stefanick, Strategic Antisubmarine Warfare, p. 43.

[25,000nm x 12nm (territorial seas)] = 300,000nm^2 .

Weapons requirements to saturate 300,000 nm^2 can be calculated using Tom Stefanick's model:[20]

(1) pi $(4\text{nm})^2 = 51\text{nm}^2$ Targets within this radius are subject to 590psi overpressure and can be assumed to be eliminated.[21]

In order to barrage the entire area encompassing the CABs, the following calculation determines the requisite number of one megaton warheads required to deliver the effects outlined above:

(2) $300{,}000\text{nm}^2/51\text{nm}^2 =$ number of aimpoints for one megaton weapon

5,883 aimpoints > 5,883 x 1.35 [correction for targeting error etc.[22]]

---

[19] Clearly, there are areas which could not be utilized as CAB positions, but equally clearly the U.S. would not be willing to use its entire nuclear arsenal to execute this strategy.

[20] Stefanick, Strategic Antisubmarine Warfare, p. 37.

[21] Stefanick, Strategic Antisubmarine Warfare, p. 37.

[22] According to Stefanick's calculations, an overpressure of 590 psi (pounds per square inch) is required for a very high probability of inflicting fatal damage to a

= 7,942 Equivalent Megatons Required (EMT[23])

Barrage of this scope would consume the entire EMT reportedly available in the U.S. strategic arsenal yet still leave considerable shortages (see Table 10).

TABLE 10

UNITED STATES ANTI-SSBN BARRAGE ASSETS

Weapon	Available	Total EMT	Notes
Minuteman II	450	900 MT	Assumes 2 MT warhead
Minuteman III	227	115.7 MT	3 RVs 170 Kiloton
	300	301.5 MT	3 RVs 335 Kiloton
Peacemaker (MX)	23	109.3 MT	10 RVs 475 Kiloton
Poseidon C-3	256	102.4 MT	10 RVs 40 Kiloton
Trident C-4	284	307.2 MT	8 RVs 100 Kiloton
Totals	1,670	1,820 EMT	

Source: The Military Balance, 1987-1988, IISS, p.202.

---

submarine, if a submarine is exposed to 590 psi at a distance of four nm from a 1 megaton underwater burst. Hence the theoretical submarine "kill radius" for a 1 megaton explosion is: pi $[4\text{nm}]^2 = 51\text{nm}^2$

[23] Equivalent Megatons, the total amount of explosive power of a given nuclear weapon or group of nuclear weapons expressed in millions of tons of TNT.

Even this staggering amount of EMT massed by the United States is inadequate to the task. Certain tightening of area of probabilities (AOP) for the CAB would impact the necessary number of one megaton aim points. For instance, if the United States could locate with a high degree of confidence the Soviet SSBN fleet, then the requisite weapons requirements would decrease. Assuming suitable areas for a CAB were limited to perhaps only 200 sites, with an average radius of 20nm, then the number of weapons required changes as follows:

200 x pi $(20\text{nm})^2$ = $80{,}000\text{nm}^2$ (total area to be barraged)

$80{,}000\text{nm}^2/51\text{nm}^2$ = 1,569 aimpoints

1,569 x 1.35 = 2,118 EMT

This smaller number of nuclear weapons does not take into account the degradation of nominal weapons effectiveness in shallow water. Generally speaking, degradation of the underwater burst is a function of water depth and bottom type.[24]

Clearly, even assuming a "best case" scenario in which the United States would know with certainty that the bombardment of 200 targets would very probably result in the destruction of the entire Soviet SSBN fleet, the requirement for 2,118 EMT is clearly beyond current or projected U.S. strategic force capabilities. Basically, the pay-off would not be worth the cost, would consume forces that are not replaceable in wartime, and reduce the U.S. strategic triad to the Strategic Air Command [SAC] bomber force.[25] By contrast, the Soviets would still retain their land-based mobile forces, silo-based ICBMs, and bomber force, and, as a result, an important strategic advantage.

---

[24] Nuclear Weapons and Effects, p. 273.

D. STRATEGIC ADVANTAGES OF THE CAB

The possible strategic advantages of a CAB SSBN deployment scheme for the Soviet Union are threefold:

1. It would permit the release of large numbers of Soviet navy general purpose forces for the prosecution of other than pro-SSBN tasks to assist in protracted and conventional war aims;

2. In the event the United States contemplated nuclear counterforce options, the CAB scheme would complicate coordination of targeting; and

3. In fighting a conventional war in which the Soviets had some limited goals {among which was the avoidance of an intercontinental exchange}, placing the SSBN fleet in CABs could be construed as a signal of their intent to avoid use of nuclear weapons. Those possible benefits are discussed next.

---

[25] Intentionally deleted from these computations for simplicity's sake. While the B-1, B-52 and FB-111 all could deliver large yield gravity bombs on CAB positions, they would be subject to attrition etc., enroute to the CABs. Further, TLAM/N warheads of 200 kilotons would have an extremely short lethal radius, ruling out there use in this role.

1. The Conventional War Advantage

The Soviet navy doctrine for wartime operations is an integral part of Soviet unified doctrine. Officially, Soviet navy spokesman do not recognize unique "laws" of armed conflict at sea. Instead:

> Victory is achieved by the coordinated efforts, and this gives rise to the necessity of integrating all knowledge about warfare in the frame work and limits of a single unified military science.[26]

As an integrated component of Soviet military power, the navy will presumably be employed to meet total national wartime, be it in a nuclear or in a conventional war.

Most contemporary Western analysts of Soviet military affairs are agreed that current (1980s) Soviet military planning stresses the priority of conventional war-fighting. According to James M. McConnell:

> ...since the spring of 1981, it looks like achieving an independent conventional option as the basic option--not the only option, but the basic option--has been set as an objective of the 1981-1985 plan going on right now.[27]

Foremost in Soviet conventional war planning is presumably the European Front. In the event of war in Central Europe, NATO will be burdened with the defense of the trans-Atlantic sealines of communications [SLOCs]. No doubt, Soviet military planners are fully aware of their potential opponent's logistical weak link.

---

[26] FADM Chernavin, Morskoy Sbornik, January 1982, p.20 [as translated by Defense Technical Information Center].

[27] J.M., McConnell, CNA Report No. 82-1885, "Evidence of A Higher Priority for the Soviets in an Anti-SLOC Campaign," Alexandria, Virginia, 1982 p. 1.

In the early 1980s the Soviet Union began to review the importance of a potential campaign to interdict the SLOCs resupplying NATO.[28] According to one of the most prominent Western interpreters of Soviet military pronouncements, James M. McConnell, this recent Soviet literary concern with the West's dependence on the trans-Atlantic SLOC, is evidence that SLOCS are of new importance. McConnell quotes G.M. Sturua, a frequent Soviet commentator on Western security affairs, in his article "The U.S. Reliance on an Oceanic Strategy?" in 1982:

> The first convoys of transports with reinforcements and supplies for NATO's joint ground forces would start to arrive in Europe no earlier than three weeks after the possible initiation of combat action, with losses from the combat organized by an opponent possibly amounting even in the first stage to 50-70% of all the freight hauled.[29]

The CAB concept, as envisaged in this paper, would serve to make available--with no or little loss of SSBN security--precisely the numbers and kinds of naval forces that might just succeed where the German U-boats of World War I and II did not. The current [1988] U.S. Navy intelligence estimate of Soviet bastion strategy holds that only 25 percent of Soviet Northern fleet general purpose submarines forces will be committed to other than pro-SSBN duties.[30] If the Soviets are serious about protracted conventional war planning and, as a corollary, a sustained anti-SLOC campaign, then they must clearly find a less asset intensive alternative to the bastion scheme that has presumably been in effect for the past 15 years or so. The CAB concept offers such an alternative.

---

[28] McConnell, "Evidence of A Higher Priority for the Soviets in an Anti-SLOC Campaign," p. 1.

[29] G.M. Sturua, "The U.S. Reliance on an Oceanic Strategy," Morskoy Sbornik, March 1981, p. 102, as cited by McConnell, "Evidence of A Higher Priority for the Soviets in an Anti-SLOC Campaign," p. 5.

2. Strategic Arms Reduction Treaties and the CAB

As the Soviet Union and the United States appear embarked on a new era of strategic weapons systems [including SSBNs] "build-down," the role of strategic reserve forces becomes more important. The importance of a secure and flexible second strike capability is such that diversification of the second strike and strategic reserve will be a key element in a future strategic weapons reduction treaty. The need to hedge against a technological breakthrough against any one leg of the intercontinental delivery systems will encourage new basing modes (rail mobile etc.). The implications for the CAB concept are several. First, as the absolute number of SSBNs decreases, individual units will become more important. Lastly, because a START treaty [by definition] would entail reduced numbers of nuclear weapons for an area barrage, the area barrage option would lose whatever attractiveness it might have under conditions of "nuclear plenty."

---

[30] RADM Studeman, Testimony before the House Armed Services Committee, Washington D.C., March, 1988.

The currently SALT mandated-limit of 62 modern SSBNs for the Soviet Union, and 41 for the United States will be the "starting line up" for START-negotiated SSBN/SLBM reductions. Since there are sub-limits in terms of launchers (strategic nuclear delivery vehicles/SNVDs) a further reduction in hulls authorized would be an area in which both sides may be amenable to new, lower limits. With current proposals allowing for 4,900 warheads on ballistic missiles, and maintaining the current Soviet 2:1 land versus sea basing modes, the Soviets SSBN force could be drastically reduced.[31] For the Soviets, an all-Typhoon force of perhaps eight hulls would be mandated to remain within proposed limits.[32] Hiding eight SSBNs within the confines of the territorial seas of the Soviet Union is an easier task than secreting 62. In any case, the particular benefits for the CAB strategy are at least twofold; first each SSBN will have the benefit of a proportionately larger number of coastal defense assets. Secondly, there will be greater resources allocated to conventional warfighting general purpose forces. Of course there are interactive permutations of these benefits. A greater number of "false" CABs could be prepared, more could be spent on other types of maskirovka etc.

---

[31] "Strategic Arms Reduction Talks," U.S. Senate Republican Policy Committee, William Armstrong, Chairman, June 29, 1988, p. 5.

[32] Norman Polmar, "Missile Agreements," Proceedings, USNI, February 1988, p. 117.

In terms of contributing to general purpose forces, it may be well assumed that a START treaty will reduce "strategic" weapons, and proliferate "tactical" ones. Converted SSBNs may carry cruise missiles which may not be covered under the treaty.[33] In addition, the CAB concept may offer refuge to ex-SSBN cruise missile submarines [SSGNs] if they were to form part of the strategic reserve. They, too, could be afforded protection inside of the CAB, and could be counted as a secure reserve.

The net impact of any START treaty on the CAB may be to enhance its utility to the Soviet Navy in conventional warfighting terms.

3. Strategic Reserves: A Dynamic Format

The Soviet Union and the United States have long considered land mobile ICBM basing.[34] The degree to which a nation now relies on mobile systems is presumably indicative in part of its faith in the relative security of its seagoing nuclear forces. The Soviets with their currently deployed SS-24 rail-mobile ICBM have the lead in this area.

---

[33] Watkins, Congressional Testimony, FY 1986 HAC, Part 2, p. 103.

[34] In the Eisenhower administration a Minuteman train mobile system similar to the MX train mobile scheme was planned with 50 trains. The Kennedy administration cancelled the program.

In addition the SS-25 road-mobile ICBM allows for increased survival from a counterforce strike via dispersion.[35] While only 100 SS-25s are currently operational, targeting these units is among the most difficult of all C^3I problems.[36]

The key to a strategic reserve is survivability, not only of the weapons systems, but also of the requisite command and control architecture to enable a second strike. The 1988 version of Soviet Military Power: An Assessment of the Threat, points out that the trend is for a smaller percentage of Soviet total intercontinental capable warheads to be deployed in a ground encased silo or SSBNs.[37] This does not differentiate between force allocations in terms of strategic reserve et al., however, this shift towards survivable systems apart from seabased systems has been noted by Western analysts. MccGwire points out that:

> Had it not been for the USSR's development of mobile missiles, the increasing accuracy of U.S. ballistic and cruise missiles might have brought a greater Soviet emphasis on sea based ballistic and cruise missiles. As it is however, the lesser vulnerability and costs of mobile missiles make it unlikely that the USSR will follow the U.S. policy of placing an ever greater share of its strategic missiles on seagoing platforms.[38]

It would seem that the Soviet Union, as is the United States, is concerned lest it place too great a burden on any given ICBM/SLBM delivery system. This again works to support a CAB strategy. The Soviets prefer survivable systems, capable of a prompt hard target kills: not those necessarily "wet" or dry. A combination of different survivability schemes complicates counterforce targeting problem for the United States.

---

[35] Soviet Military Power, pp. 29, 47.

[36] IISS, p. 206.

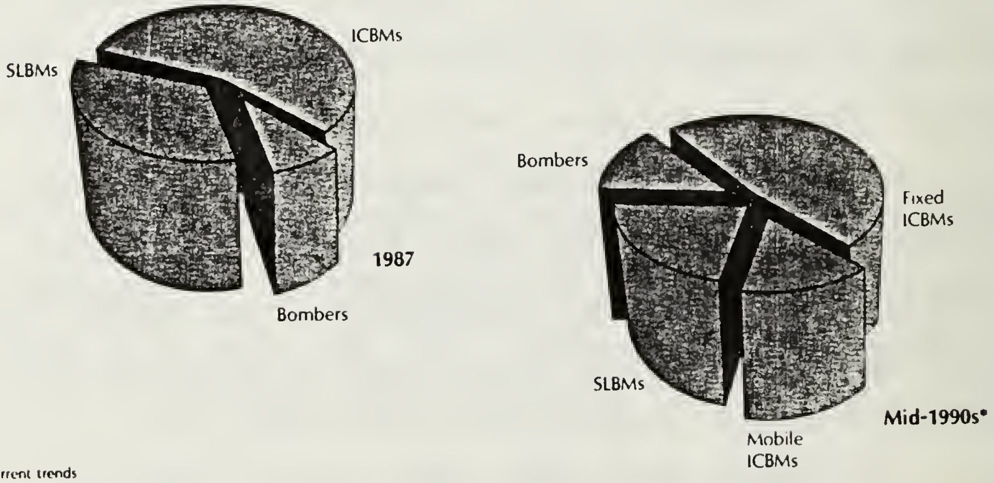
[37] IISS, p. 206.

[38] MccGwire, "Contingency Plans for World War," p. 33.

Table 11 indicates the relative shift of basing platforms within the Soviet arsenal and the projection for the next decade.

TABLE 11

SOVIET STRATEGIC FORCE MIX



*Estimates based on current trends

Source: Soviet Military Power, 1988, p. 46.

4. Historical Factors for the CAB

The Soviet navy may have suffered from an inglorious historical naval tradition due to its exploits in the Second World War. This however is not due to their fine record in coastal operations.[39] The Soviets fought well in defense roles along their own coasts. While this may be the weakest argument in support of the CAB, the direct defense of the Soviet Union and its territorial waters is not a task to be taken lightly by the Soviet navy.

5. Summary

Advantages accrue to the CAB when the relative merits are reviewed in conventional warfighting logic. The ability of the Soviet navy to generate forces on "the cheap" for both bastion defense and more traditional naval missions is the central advantage in terms of military gains. The next chapter reviews Legal and Political factors regarding the CAB strategy.

---

[39] Friedreich Ruge, The Soviets As Naval Opponents, Naval Institute Press, Annapolis, Maryland, 1979, p. 191.

IV. LEGAL AND POLITICAL RAMIFICATIONS TO THE CAB CONCEPT

A. INTRODUCTION

The purpose of this section is to explore the legal and political factors that may have entered--indeed may have encouraged--the postulated Soviet CAB decision. Examined is the proposition of an extremely "practical" linkage between Soviet efforts in recent years toward international adoption of a 12 mile territorial sea regime, and the timing and intention to deploy the Delta class SSBN force capable of executing a Close Aboard Bastion strategy. The basic premise is that the sovereignty over a greater portion of Soviet coastal seas has important implications for the Soviet Union's wartime strategic ASW. Additionally, the political ramifications of striking Soviet territory in an effort to eliminate strategic nuclear forces is entering a realm of the unknown and unknowable. In political terms incursion into the Soviet Union's homewaters will be examined to determine to what degree the Soviets regard their territorial seas as inviolate in warfighting escalation. The political and legal issues regarding the CAB are further complicated by the integrity of Soviet waters in peacetime, weapons basing and the Soviet efforts to establish "ASW-free zones" in order to protect their SSBN force. In concert, these factors make analysis of Soviet coastal claims and intentions difficult to examine in this regard.

B. THE LAW OF THE SEA AND SOVIET NAVAL POLICY

The original premise for the Third United Nations Law of the Sea Convention (UNCLOS III 1983) was to codify and standardize the various national claims regarding territorial seas.[1] While some coastal states had advanced claims of 200 nautical miles, others claimed only three nautical miles. Both the United States and the Soviet Union were willing to accept a 12 nautical mile statute, in addition to other guarantees of freedom of navigation, in order to standardize the recognized coastal territorial seas. The original cooperation between the two principals (the United States and the Soviet Union) ended with the politicization of UNCLOS III. The degeneration of UNCLOS III into a propaganda debate centered on the sharing of deep sea bed mining among all nations as a "common heritage of mankind." However, the ultimate recognition of the key navigation issues became belatedly accepted as customary law.[2]

---

[1] Burdick Brittin, International Law for Seagoing Officers, Naval Institute Press, Annapolis, Maryland, 1986, p. 81.

[2] Brittin, International Law for Seagoing Officers, p. 11. Customary law is defined as "where by dint of usage, the custom was recognized by states as an obligation instead of a matter of voluntary compliance." The key navigation issues were, straights passage, innocent passage of warships, standard limits to territorial seas and

The following review of UNCLOS III highlights the Soviet position on navigation issues, and postulates a close relationship between the Soviet view on the scope of "territorial" sea rights, and the practicality of a CAB SSBN deployment scheme.

1. Background on the Soviet Position

An advantage of the Soviet system is its ability to coordinate within its integrated foreign and military policy all the key adjuncts to support its goals. Among these important collateral issues was the problem of territorial seas. In 1966 the Soviet Union had tabled a resolution in the United Nations calling for a review of key issues left unresolved by the 1958 Law of the Sea Conference.[3] This was viewed favorably by the other major maritime powers, notably the United States, the United Kingdom, Japan and France. For the United States and the Soviet Union, a central concern was the freedom of movement of naval forces. In the case of the Soviets, generally conceded to own an adverse geographical position, the importance of freedom of navigation via international straights and the establishment of an internationally agreed 12 nautical mile zone of territorial seas were priorities which required international codification.

---

archipelagic passage amongst island states.

[3] Mark W. Janis, et al., Soviet Ocean Development, National Ocean Policy Study for the Committee on Commerce, Washington D.C., October, 1976, p. 288.

Essentially, the Soviet goal was threefold: first, the Soviets desired a 12 mile territorial sea. Secondly, they were concerned about the maintenance of freedom of passage through the straits of the world, critical to projecting naval forces out into the open ocean. Lastly, the Soviets were anxious to have their ambiguous definition of "historic waters" recognized. The Soviet definition of "historic waters" is significant because its international recognition would vastly expand the sea areas "legally" available to the Soviet Union for implementation of a CAB posture.[4]

These three wishes were advanced in 1977 by Colonel of Justice Tarkhanov writing in the Soviet journal Morskoy Sbornik:

> 1. Creation of a favorable legal regime of maritime expanses for the Navy.
> 2. Improvement of rules of relationships among navies of different states.
> 3. Development of measures to adopt in naval practice the requirements, principles, and norms of international maritime law.[5]

While studies have shown inconsistencies in the Soviet position regarding the locale and extent of their claims for historic territorial seas, any such claim, in particular to the Arctic coast, would greatly expand the possible areas for a CAB strategy.[6]

---

[4] The Soviet definition of historical waters are those bodies of waters "used primarily by one state over a length of time." In general this has meant that historical waters can be defined as anyplace the Soviets don't want you to go. This is adequately ambiguous to allow for latitude in claiming those seas which Soviets feel are of import. V. Mamchits and Y. Markov, "Legal Regime of International Straits," Morskoy Sbornik, November 1975, p. 74.

[5] I. Tarkhanov, "International Maritime Law and the Navy," Morskoy Sbornik, January 1977, p. 82.

Several ancillary issues were connected with these three primary interests, including the delineation of Exclusive Economic Zone (EEZ) rights and responsibilities, and the requirement that deep sea mining technology be shared by all states. Nevertheless the primary interest of the Soviets, was to secure freedom of navigation for naval forces. The Soviet literature during the course of UNCLOS III negotiations discussed items such as Arctic passage, but the focal point throughout remained making a statement in support of these three primary Soviet goals.[7]

The timing of the Soviet drive for codification of the twelve nautical mile sea and the development of the Delta class SSBN cannot be ignored. This evidence, although circumstantial in nature, shows the drive to obtain a twelve mile sea coincided with the plans to construct a withholding force of SSBNs. The initiation of the actual conference to review the Law of the Sea [LOS], coincidental with the Delta/SS-N-8, could have well been part of a plan to ensure the Soviet Union has a secure strategic reserve within the borders of Soviet territory. While linkage of this type is difficult to prove conclusively, it can be considered in the broader context of the entire Soviet strategic approach regarding military operations. If the decision to build the Delta class submarine prompted an effort to provide greater territorial seas for it to operate in, it would have made good sense for the Soviet Union to seek the appropriate and "legal" international environment in advance. The reality of Western ASW superiority may have convinced the Soviets that by utilizing a CAB scheme, the West would have to conduct strategic ASW offensive operations in what amounted to Soviet soil. This would be something that would work for the survivability of SSBNs, given that their would be political sensitivity to such "homeland" strikes.

---

[6] Lewis M. Alexander, "Navigational Restrictions Within the New LOS Context," Offshore Consultants Inc., Peace Shore Rhode Island, December 1986, Defense Supply Contract No. MDA-903-84-C-0276.

[7] W.E. Butler, "Innocent Passage and the 1982 Convention: The Influence of Soviet Law and Policy,", pp. 336-7. Butler discusses the key military applications of the LOS, notably territorial seas and passage of warships.

2. Territorial Seas

The Soviet claim on a 12 nautical mile territorial sea has rested on three arguments: first the Soviets have claimed historical precedent based on Soviet law from the 1920s.[8] Secondly, the Soviets have cited the International Law Commission as having "recognized and firmly establishing" the 12 mile limit.[9] Thirdly, they have argued that extension of the territorial seas to 12 nautical miles no more than recognizes progress in technological means for fuller exploitation of offshore waters. According to one Soviet commentator:

---

[8] United States Department of State, Limits of the Seas, pp. 21-433. A Decree dated June 27, 1921 claims a 12 nautical mile limit for all Soviet coastal boundaries.

> ...the question of the breadth of the territorial sea, still on the agenda of international conferences on maritime law, should be resolved taking technological progress into account...limits should conform to the present level of development of science and technology.[10]

In exploring the relationship between the territorial sea and the CAB strategy only the issues regarding the integrity and breadth of Soviet claimed seas are germane. In examining these issues, the measurement of the territorial sea is crucial, as is Soviet declatory policy regarding the sovereignty issues.

Since the territorial sea is measured from a baseline seaward as delineated by the coastal state, the definition of this baseline is critical to the delineation of the areas encompassed by the Soviet territorial seas and internal waters.

---

[9] Brittin, International Law for Seagoing Officers, p. 77. The International Law Commission is quoted as: "The commission does not recognize an extension of the territorial sea beyond 12 nautical miles."

[10] Barabolya Ivanschenko et al., Ocean, Technology, Law, NTIS 1975, translated from original text published in 1972 Moscow Press, p. 54. This might include technical ability to monitor these seas as well as exploit their natural resources.

The baseline issue closely tracked by the Soviets throughout all the Law of the Sea Treaties. In the book, Ocean, Technology and Law, the authors acknowledged that the "question of the length of the baseline provoked sharp discussion and was not resolved at the 1958 Convention".[11]

The UNCLOS III determination regarding the baseline issue was ambiguous. It stated that the coastal states were required to see to it that:

> The drawing of a straight baseline must not depart to any appreciable extent from the general direction of the coast, and the sea areas lying within the lines must be sufficiently closely linked to the land domain to be subject to the regime of internal waters.[12]

The Soviet baseline, as declared in Decree Number 4450, dated 15 January 1985, which outlined the ocean borders of the Soviet Union is, a "straight baseline" border.[13] It is in direct contradiction with the spirit and letter of the UNCLOS III treaty. For instance, the baseline drawn across Peter the Great Bay, home of Vladivostok Naval base, is 112 nautical miles. It covers a shoreline that is both sinuous and irregular.[14] Petropavlosk is equally well "protected" by improperly drawn baseline as depicted in Figure 1.

---

[11] Baraboyla, Ocean, Technology, and Law, p. 55.

[12] United Nations Convention on the Law of the Sea, Part II Section 1, Article 7.3, 10 December, 1982.

[13] Council of Ministers of the Soviet Union, Decree Number 4450, 15 January, 1985, p. 435. A "straight baseline" coastal border is defined as one in which the irregularities of the coastline are ignored and points most seaward are connected by straight lines to form the baselines from which territorial seas are measured.

On the Northeast Passage, several baselines are drawn to "close" various straits, notably Vil'Kitsgo and Dimitriya Lapteva.[15] While the Soviets point out that other states utilize greater baseline extensions, Denmark and Iceland with 80 and 90 nautical miles respectively, the Soviet practice clearly is used to manipulate various freedoms of navigation, and, arguably to expand the waters available for CAB deployment.

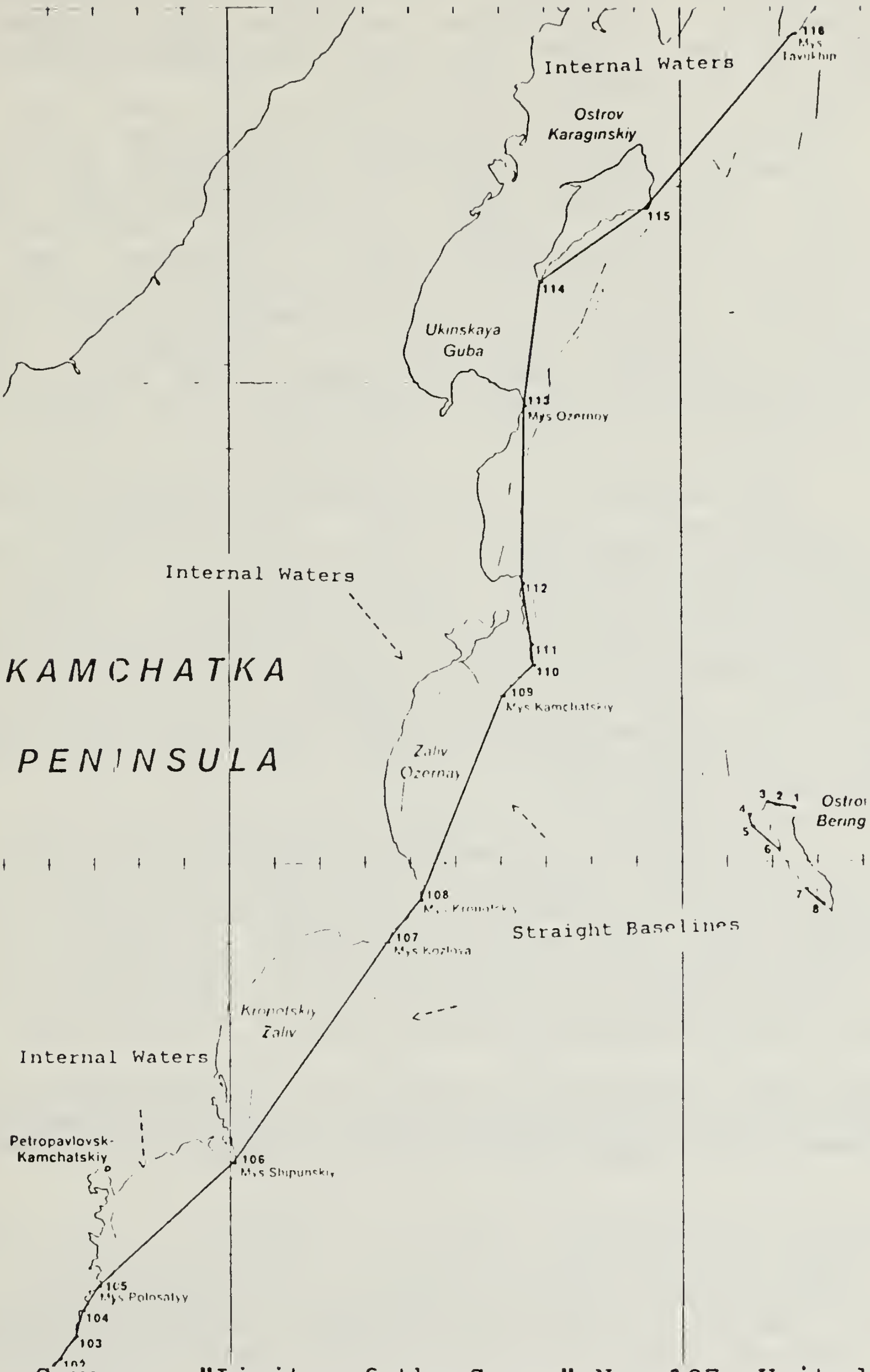
Within the confines of the proclaimed Soviet territorial seas lies the Northeast Passage; it has effectively been closed by the Soviet use of the baseline. The proclaimed territorial seas, combined with extensive year round ice, preclude passage by any surface ship without Soviet permission.

The Soviets, having decreed the extent of their territorial seas, have a variety of legal to references to show compliance with both customary law and international conventions. Again Admiral Nazarenko spelled out this connection in 1983:

---

[14] This is also claimed as "Historic waters," covered separately.

[15] The Northeast Passage provides transit from the North Sea in European Soviet Union to the Chukchi Sea south to the Pacific Ocean and the Far Eastern Regions of the Soviet Union.



Source: "Limits of the Seas," No. 107, United States Department of State, 1987.

Figure 1. Soviet Internal Waters

> This document {1983 Supreme Soviet Decree} reflected generally recognized principles and standards of contemporary international maritime law, secured in the 1982 UN Law of the Sea Convention signed by the Soviet Union on 10 December, 1982.[16]

This leads to the conclusion that the Soviet Union claims a 12 mile limit, and that it considered this feature a "recognized principle," hence customary law. Such recognition is critical in determining what rights and recognitions other countries render the Soviet Union in terms of honoring territorial waters.

The breadth of the territorial sea was another issue that received great Soviet attention at both the Geneva and Jamaica conventions. The International Law Commission, the Soviets report, was of the opinion that "international law does not permit extension of the territorial sea beyond the twelve mile limit."[17]

In summary, it would appear that the Soviet Union fully intends to maintain a twelve mile territorial sea. In 1980 Major General of Jurisprudence P. Barabolya, the deputy of the Soviet delegation to UNCLOS III, wrote that;

> this draft [UNCLOS III] contains such extremely important questions of territorial waters...general agreement of all states has almost been reached with respect to 90% of the

---

[16] Nazarenko, "Legal Regime of Coastal Maritime Waters in the Law on the USSR State Border", Morskoy Sbornik, July 1983, p. 95.

[17] United Nations Conference on the Law of the Sea, Official Records, Appendix Vol. III, p. 209 [taken from Baraboyla, p. 56].

> provisions...the 12 mile limit, and the regime of territorial waters.[18]

3. Historic Waters

The issue of historic waters is one in which the difficulty of determining sovereignty becomes apparent. In buttressing their claims on various "historic" waters, Soviet writers frequently cite their historical control as precedent. "Precedent" is sufficiently ambiguous, however, for the Soviets to claim bodies of water that wash onto the shores of other states.[19]

A related Soviet claim concerns the concept of "closed seas." A closed sea is a body of water in which only states that border on it may navigate upon it.[20] The Baltic Sea, the Sea of Okhotsk, the Black Sea, and the Sea of Japan have all been cited as candidates for "closed seas." Since the concept behind closing these bodies of water is based on historical precedent (and a claim to "internal waters" as defined by Soviet law), the degree to which freedom of navigation is allowed is important.[21]

---

[18] Barabolya, Ocean, Technology and Law, April 1980, p. 70.

[19] The Sea of Okhotsk is often mentioned as "historic waters," despite periods of Japanese control, and occupation of Sakahalin Island.

[20] Alexander, "Navigational Restrictions Within the New LOS Context," p. 67.

[21] D.W. Given, "The Sea of Okhotsk: The USSR's Great Lake?", Proceedings, September, 1970, pp. 48-49.

The distinction between historic and closed waters is difficult, but both incorporate the exclusion of non-Soviet vessels from operating in or transiting through these areas. The Soviets recognize that historic waters are difficult to define. According to Baraboyla in 1972 "until recently it has not been possible to develop either in the theory or practice of international relations, a clear-cut conception of 'historic waters' and 'historic bays'."[22] Today still, a workable and agreed upon definition escapes international jurists. It is the Soviet contention:

> In the doctrine as well as the practice of international law, it is recognized that States may, under certain circumstances, for historic reasons extend their sovereignty to certain waters which adjoin their seacoast.[23]

To the Soviets credit, they are cognizant of the problems in defining these "certain circumstances"; with the exception of what are internationally accepted as "historic bays," the Soviets seem to define historic waters merely as bodies of water they would prefer to keep non-Soviets out of. It is not surprising that Soviets have security concerns in the Kara and White Seas, claimed as historic waters, as well as in the Sea of Okhotsk.

While carrying out a CAB strategy, the Soviet Navy would pursue every pre-hostility course of action to secure their ballistic missile submarines in transit to these waters. Any pretense, however vague or ill-claimed, would be marshalled to try and keep potential foes out of sensitive security areas, and justify action against Western ASW units attempting to trail or otherwise localize Soviet SSBNs. The 1972 book, Ocean Technology and Law, closes its discussion of historic waters with the assertion that;

---

[22] Baraboyla, Ocean, Technology and Law, p. 45.

[23] Baraboyla, Ocean, Technology and Law, p. 47.

> Thus, despite distinct differences of opinion, the status of historic waters has much in common and is established, and even now permits us to pose the question of standardization of the concept of "historic waters" in the interests of peace and the security of peoples.[24]

Writing in July of 1983 Admiral Nazarenko pointed out that the use of force to eliminate naval violators is both justified and can be expected. The fact that the Soviets feel such incursions are occurring in peacetime is apparent when Nazarenko states:

> Violators of the USSR state border include foreign submarines...such actions are crude violations of the USSR's sovereignty and contradict generally recognized standards of conduct under international law.[25]

Whether or not there are submarines violating Soviet waters is not the question; what is significant is that the Soviets regard maritime boundaries as sacrosanct in time of peace and war. Only grudgingly do the Soviets accept that warships may transit their waters under innocent passage, a transit which must be in accordance with Soviet instructions, in clear defiance of international convention.[26]

---

[24] Baraboyla, Ocean Technology and Law, p. 53.

[25] Nazarenko, Morskoy Sbornik, July 1983, p. 99.

C. POLITICAL ADVANTAGES OF A CAB STRATEGY

Potential political advantages of a CAB strategy for the Soviet Union are several. Political advantages may be defined as those which further the interest of the Soviet Union in peacetime, or provide wartime advantage without military operations. These advantages include declaring unilateral ASW free zones in coastal areas, a posture which eliminates Soviet, [but not U.S.] SSBNs from the open ocean. This would provide the Soviet with an propaganda coup by being able to claim that no Soviet strategic nuclear weapons were deployed on submarines on the high seas. Also, while not exclusive to the CAB strategy, a decreasing dependence on Soviet SSBNs as a part of their nuclear forces (assuming the current shift to mobile ICBMs continues) allows for the Soviets to consider the SSBN fleet available for START treaty reduction. Alone, none of these advantages may seem significant, however, in aggregate, they add compelling weight to the case for the CAB strategy.

---

[26] The USS Yorktown and USS Caron foray into the Black Sea and the resultant ramming by the Soviet navy is indicative of Soviet dis-respect for freedom of passage. See W.E. Butler, "Innocent Passage and The 1982 Convention, The Influence of Soviet Law and Policy," The American Journal of International Law, April 1987, pp. 333-334, and Phillip Taubman, "Soviets Hope Provocation At Sea Won't Hurt Talks," New York Times February 14, p. 1

1. ASW Free Zones

Arms Control treaties seem to take one of two general directions. First, they either limit the number and types of weapons deployed, or secondly they put limitations on where and how the weapons may be used.[27] In the case of the postulated CAB strategy both dimensions of the arms control equation come into play.

Threatening the opponent's SSBNs with destruction is perceived, by some observers, as "de-stabilizing" and as risking unwanted escalation of (conventional) hostilities to the nuclear level. In order to minimize this danger, the creation of "ASW Free Zones" has been proposed. Broadly speaking, such zones would entail the exclusion of opposing ASW capabilities, from sea areas set aside as SSBN "sanctuaries." This is the essence of the second element of arms control: weapons systems location.

The establishment of mutually-agreed ASW Free Zones would be extremely beneficial for the Soviet Union. First, the Soviets would have a good idea where the West's SSBNs are located, an advantage they currently do not have.[28] Secondly, Soviet general purpose forces would be freed entirely from the burden of providing "combat support" for their SSBN force. Lastly, the Soviets could economize on their ASW forces, and capitalize on other naval mission areas.

---

[27] George Quester, Praeger Press, New York, NY, 1983, p. 38.

[28] This makes the assumption that the West would place them in these zones, not necessarily a valid assumption.

By adopting a CAB SSBN deployment strategy, the Soviets are able to take advantage of only one of these key advantages. The SSBNs would be located inside territorial waters, largely in Soviet internal waters. This is an important distinction. As James Tritten has noted:

> Another Soviet option is to deploy submarines in restricted waters, so for geographic, military, political and legal reasons, other nations would find it more difficult to conduct offensive antisubmarine warfare operations.[29]

Attacking an SSBN which is positioned in internal or territorial waters is a different proposition than attacking one on the high seas. The difference is analogous to the perceived threshold that separates a NATO decision to attack Soviet second echelon forces marshalling in Eastern Europe, from one to strike these same forces within the Soviet Union proper. From a practical military point of view, the decision whether to prosecute Soviet SSBNs on the high seas or in Soviet internal waters may seem artificial; the symbolic difference may be one that matters however.

The CAB strategy would be, in effect, a unilateral declaration of an ASW free zone inside Soviet coastal waters. This does not necessarily guarantee against attack by Western forces. It certainly complicates it tactically as mentioned in Chapter III, but it also sends a political message regarding the inviolability of attacking strategic assets in the Soviet homeland. This may telegraph the degree to which the combatants are willing to go for favorable war termination.[30] Homeland attacks against portions of the Soviet strategic reserve are a clear message that the West is attempting to alter the nuclear correlation of forces. The additional protection this affords the Soviet SSBN fleet is an advantage easily won merely by locating the SSBNs where they will be less vulnerable and more easily controlled.

---

[29] James J. Tritten, "Scenarios of Nuclear Escalation Dominance and Vulnerability", Naval PostGraduate School Technical Report NPS-56-88-013 June 1988, p. 19.

2. SSBN Force Level Reductions and the CAB Strategy

Since there is a finite amount of coastline in which to hide the Soviet SSBN force, a reduced number of SSBNs increases both the difficulty, and the payoff to the attacker of detection. On balance, however, fewer SSBNs strengthen the advantage of the CAB strategy. Those advantages are threefold: First, having to conceal fewer SSBNs means that more vacant CAB positions can be used to try and lure Western naval forces into ambush. Secondly, as a shift from sea-based nuclear reserve forces to land-based assets (road and rail mobile SS-24s and SS-25s) occurs, the absolute costs of each deliverable warhead in the strategic reserve decreases. Accordingly, the amount required to provide a CAB defense also decrease, and provides more general purpose forces for other missions. Lastly, and, admittedly, least likely, would be the emergent requirement to provide protection of Western SSBNs from Soviet naval forces. Strategic anti-SSBN ASW by a Soviet fleet which has fewer SSBNs to protect could lead to a Western pro-SSBN mission. While some of these advantages could only come about with reduction in both Western (primarily U.S.) and Soviet SSBNs, others do not require Western "cooperation."

---

[30] Tritten, "Scenarios of Nuclear Escalation Dominance and Vulnerability," p. 19.

For instance, as the absolute number of U.S. SSBNs decr eases, each unit grows in relative importance in terms of percentage of secure reserve warheads held. With the total Trident force held to a lower number (perhaps 18-20), the Soviets would gladly accept a reduction in their own number of SSBNs.[31] This would result in a net gain for the Soviets in terms of land based nuclear warheads which they could target effectively. This would be advantageous in terms of the CAB, simply because it required less effort to conduct pro-SSBN operations, and placed greater emphasis on anti-SSBN operations.

3. Conclusions

In either case, there is very little to commend in the CAB for the West in terms of future START treaties. The SSBN force of the West should not be reduced or compromised in any fashion merely to reduce Soviet SSBN holdings. Soviet SSBNs, in or out of a CAB scheme, do not play the same central role in the secure strategic reserve as do SSBNs of the West. Diversity in Soviet strategic reserves mitigates against a head to head SSBN comparison.

---

[31] James L. George, "The Two Track Dilemma in the START Negotiations," Strategic Review, Vol. XVI, Winter 1988, pp. 40, 43.

Currently the Soviets would find all the advantages in a CAB strategy they would hold given a Western commitment to ASW free zones. In the event the West committed to maintaining some type of mutual area reserved for each side's respective SSBNs, the Soviets would have won a major coup. This would expose the West's SSBN force to precisely the type of attack the Soviets would perhaps consider given the current relative nuclear arsenal imbalance: nuclear barrage.

In any case ASW Free Zones or designated SSBN Patrol Areas clearly simplifies the Soviet ASW problem. Given the asymmetry in the Soviet and Western ASW capabilities, the ASW Free Zone type concept would provide a simplification they would otherwise not be available to the Soviets in the near term due to a lack of open ocean search sensors.

V. DISADVANTAGES OF THE CAB POSTURE

A. INTRODUCTION

The drawbacks to any particular military strategy can never be fully identified prior to wartime implementation. In the case of the CAB strategy it is speculative as to what degree this concept would or could be operationalized (as would be any projected Soviet deployment posture). In order to fully ascertain the utility of the CAB strategy, issues that would mitigate against the CAB posture must be examined. This analysis problem can be addressed via careful scrutiny of perceived Soviet intentions, equipment capabilities and Soviet perceptions of Western equipment and intentions. The laboratory environment available to examine the CAB strategy is one dimensional inasmuch as the Soviets are not apt to provide detailed operating agendas for their SSBN fleet. Despite this lack of perfect knowledge regarding actual Soviet plans, an evaluation must be done considering four feasible scenarios. By examining these scenarios, potential shortcomings of the CAB strategy may become evident.

It is the purpose of this section to examine various potential shortcomings, vulnerabilities, risks, etc., in the CAB strategy for the Soviet Union. In so doing it will become obvious that the disadvantages are primarily a function of "worst case" scenarios for the Soviet Union. The worst case is defined as one in that a nuclear exchange has occurred which the Soviets did not initiate. This worst case ultimately results in large number of intercontinental strikes impacting on Soviet territory.[1] In making the assumption that only a given number of general wartime scenarios are relevant, the following sub-sections outline problems that might arise from a CAB strategy.

1. Short War Scenarios with Initial Conventional Weapons

In the war scenario that the Soviets would prefer to fight, the so-called conventional option, the possible disadvantages to the CAB strategy lie primarily with the danger of vertical escalation.[2] That is, SSBNs in a CAB posture would be limited to a degree in their ability to escalate quickly, losing the short warning time available to forward deployed SSBNs. In the event the use of SLBMs was mandated, the disadvantage of lost short warning time might be eliminated by more rapid delivery of release authority.

---

[1] S. Shapiro, "Report on Annual ONI Symposium at Annapolis", August 24 1981, p. 5. "The Soviets were doing quite well without war [nuclear] and obviously prefer to keep it that way."

[2] McConnell, James, CNA Report No. 82-1885, Alexandria, Virginia, 1982, p. 2.

The CAB strategy in a war fought totally conventionally would generate few problems of import.[3]

The short war scenario, which would have the Soviets seizing much of Western Europe by way of a "blitzkrieg," would require the quick collapse of NATO defenses. The specter of a quick Soviet victory may, however, trigger the very use of nuclear weapons that the Soviet wish to avoid. NATO might decide on first use in order to avoid defeat; Warsaw Treaty Organization (WTO) incentive would be to preempt NATO first use. In either case, the CAB strategy could be disadvantageous in the following ways. First, NATO resort to tactical nuclear weapons to attack the CAB positions inside Soviet territorial seas would entail horizontal and vertical escalation the Soviets prefer to avoid. Next, CAB defenses, however well-planned, could fail so that the Soviet Union could lose enough SSBNs to be forced with a highly unfavorable "correlation of forces." In both these areas, the CAB posture could create some problems as discussed below. This would require that the West overcome the very significant defenses and tactical problems presented in CAB defense.

---

[3] Obviously, the Soviets would have no way of guaranteeing themselves that they could keep a war "conventional," given NATO's intentions to use nuclear weapons. NATO declatory policy [and U.S. policy] is that nuclear weapons will be used to defend Western Europe. Linkage to a strategic exchange is provided by Jeffrey Record in NATO's Theater Nuclear Force, Institute for Foreign Policy Analysis Inc. Cambridge, Massachusetts, 1981, p. 18. Warfare is, in aggregate, a "crapshoot."

The use of nuclear weapons after a conventional phase of combat would be escalatory in a vertical sense due to the crossing of the conventional weapons threshold. In a horizontal sense, the use of nuclear weapons to attack a CAB position represents an important escalatory step since the targets would effectively be located on Soviet sovereign territory. Clearly, the Soviets do not want to be on the receiving end of even one nuclear weapon. The implications for further escalation are obvious.[4] The use of even one nuclear weapon against the WTO forces the Soviets to make a decision they would have preferred not make. Namely, the decision of when to respond, where, and how. In considering a conventional scenario, it can be assumed the Soviets have opted not to use nuclear weapons only because it was not to their advantage to do so. Since CAB positioned SSBNs are immune from most conventional threats, the introduction of nuclear weapons endangers their survival.

A shortcoming of the CAB posture as noted earlier is the point raised by Breemer; locating the SSBNs in a restricted area solves the most difficult ASW problem, initial locating information. In a CAB deployment scheme the SSBNs would be in waters where Western ASW forces could make an attempt, using conventional weapons, however difficult, to attrite them. The impact of this potential attrition could have serious implications for the Soviets perceived "correlation of nuclear forces." The current view is held by the U.S. Navy that the attrition of these forces is not likely to escalate an otherwise conventional conflict to nuclear levels.[5]

---

[4] For instance, if the first use of nuclear weapons was by NATO against second echelon Soviet forces in non-Soviet Eastern Europe, a WTO/Soviet use against NATO forces at sea might place some pressure to use nuclear weapons to attack a known (but unassailable with conventional weapons) CAB positioned SSBN. Voila, this attack on Soviet territory might require symbolic matching, perhaps a U.S. shipyard, etc.

The conventional means to attrite the SSBNs in CAB positions available to Western forces are not impressive. Destruction of SSBNs could be accomplished conventionally via the standard arsenal of ASW weapons. Since these weapons must be delivered to within close proximity of the intended target, CAB defenses should be able to greatly exacerbate this problem. Table 12 outlines characteristics of several conventional ASW weapons.

One further conventional weapon does present a problem for the CAB-protected SSBN. Currently under development, the Submarine Launched Mobile Mine (SLMM) could penetrate heavily protected coastal waters. The mine consists of a specially adapted Mk-37 torpedo which would propel itself away from its delivery platform and go to a

---

[5] Ronald O'Rourke, "Nuclear Escalation, Strategic Anti-Submarine Warfare and the Navy's Forward Maritime Strategy," Congressional Research Service, Report No. 87-138F, February 27, 1987, pp. 40-42. The possibility of escalation is the main concern of those who fear attriting the SSBNs. This is not a valid argument, as the Soviets do not discuss the requirement to "use or lose" SSBN forces. Clearly, however, SSBNs positioned in CAB positions would be victims of a very unambiguous attack.

TABLE 12

CONVENTIONAL U.S. NAVY ASW WEAPONS

Type	Speed (pursuit of target)	Range	Warhead Size
MK-46	45 knots	9 km	45 kg
MK-48	50+ knots	46 km	267 kg

Source: Jane's Fighting Ships 1986-87, p. 198.

predetermined position and await a suitable target. This weapon would be ideal to attack a CAB positioned SSBN.[6] By inserting these SLMMs into possible CAB waters, the West could gain several advantages. First, and obviously, a Soviet SSBN could be destroyed. Secondly, if discovered, a major minesweeping effort would have to be undertaken, and may serve to expose exactly where the Soviet SSBNs were, and lastly, it might divert additional general purpose naval forces to either counter the threat, or clear the minefields.

2. Prolonged Conventional War

Historically military planners have preferred "short wars" contingency plans. This makes planning politically palatable, fiscally reasonable and most importantly, tactically and strategically very difficult. While the United States maintains (ostensibly) the capability to mobilize for a three year global war, the Soviets speak of the possibility of a prolonged conventional war lasting several years.[7] Prolonged conventional war could pose several problems or the CAB strategy. First, the longer the fighting goes on the greater the possibility of the West discovering the precise locations of the CABs themselves. Second, SSBN attrition via conventional weapons may create a problem in terms of the strategic reserve.[8] Third, and most apt to be exacerbated by the first two, is the increased difficulty of maintaining SSBN logistical support during a war that lasts many months, perhaps several years.

---

[6] Stefanick, Strategic Antisubmarine Warfare, p. 169.

The primary weakness of the CAB strategy is that, as a function of time, the West will learn where the CAB positions are and attempt to assault them. The ability of the Soviet navy to protect their SSBNs within the coastal waters will degrade with time as various Western intelligence sources marshal their assets for SSBN detection. Once the CABs are identified a concerted effort could be made to assault the SSBNs.

A long conventional war would place great demands on the Soviet coastal "pro-cab" forces. The required upkeep of coastal units protecting the SSBN fleet would be extremely difficult, exacerbated by the need to maintain some empty CABs for deception and contingency purposes. This problem is important, and would further assist the West in determining the actual positions of the CAB positioned SSBNs.

---

[7] N.V. Ogarkov, Always in Readiness to Defend the Homeland, Foreign Broadcast Information Service, JPRS L/10412, 15 March 1982. This entire piece is dedicated to stressing the importance of being able to mobilize the nation for a long war. Also, "The National Defense Stockpile Report to Congress," Washington, D.C., August, 1988, p. 20 regarding U.S. mobilization capabilities and intentions.

[8] This type of escalation is highly unlikely, "The National Defense Stockpile Report to Congress," p. 70.

One clue to probing Western intelligence services would be the logistic replenishment of SSBNs. Assuming that the Yankees and Deltas patrol a notional 70 days and assuming they were "flushed" to CAB positions prior to the onset of hostilities, they would need to replenish stocks of consumables before the war was 90 days old. While deceptive measures could be undertaken to confuse the West, it would be extremely difficult to continue this for extended periods of time. As the war dragged into months (years?) the West would be able to narrow down the number of likely CAB positions. This might invite a barrage attack, or a conventional weapon attack of greater effectiveness.

As noted earlier, the longer the war lasts the greater the opportunity the West has to alter the size and composition of the Soviet strategic reserve. While the SSBNs do not compose the entire strategic reserve, a major reduction in numbers of warheads could impact the total capability of the Soviet strategic reserve.

While a prolonged conventional war is not as beneficial to the Soviets as a shorter war, the CAB posture still holds many advantages to the Soviets, if they opted to employ their navy in operations optimized to undermine the West's superior industrial potential, i.e., SLOC interdiction.

3. Short Nuclear War

Most scenarios hold that the initiation of hostilities will probably be the culmination of increasing tensions and strategic warning.[9] While both sides may in fact dread the "bolt from the blue scenario," it is least likely.

A short nuclear war could take many forms. For one, immediate capitulation by one side after initial use, either tactically in Europe or by use of intercontinental weapons is conceivable. A short nuclear war could involve a massive exchange in which war termination would result less from victory in the classical sense, than from the elimination of many critical C^3I functions of both combatants or exhaustion/destruction of all nuclear assets. In all cases however, the problems with the CAB strategy lie primarily in the following forms.

First, the ability to serve as a strategic reserve could be severely degraded by counterbattery fire from hostile forces. While the difficulty (indeed, impracticality) of nuclear counterbattery fire was earlier noted in

---

[9] Ashton B. Carter, Managing Nuclear Operations, Brookings Institute Press, Washington, D.C., 1987, pp. 78, 81.

Chapter III, the possibility of narrowing down the locations of the CAB well enough to attack these positions with a reasonable number of weapons would be a problem for Soviet strategists. Second, a short nuclear exchange might place a premium on a debilitating first strike to destroy C^3I and leadership. In this case, CAB deployment would forfeit the advantage of forward deployed SSBNs and their ability to deliver short warning attacks would be lost. Being able to launch a depressed trajectory shot with a warning time of less than ten minutes would be critical in a war that the Soviets intended to start and finish with nuclear weapons. Lastly, the issue of defense of ballistic missiles via some type of Strategic Defense Initiative (SDI) generated weapons system must be considered. Since by definition the CAB strategy would place all the SSBNs within Soviet territorial waters, the ambiguity of azimuth problems for an SDI system would be resolved. This would likely be more important in a brief, limited exchange because, although an SDI ABM system would be an important target for early strikes, the lethality of the defensive system might require a larger strike force to be launched to ensure obtaining the required results.

The ability of the West to localize the possible positions of Soviet SSBNs within their coastal positions might leave them open to an attack. While attacking all potential CAB positions is not practicable, attacking perhaps even 200 positions with nuclear weapons could provide great strategic leverage. There are several factors to support this. First, some of the 450 Minuteman III missiles that still retain the large one-megaton warhead could be utilized for this purpose. Second, the CAB positions themselves would most likely be located in relatively sparsely populated areas along the coast. Lastly, in terms of strategic exchange, depleting even all 450 Minuteman II missiles in this role is a veritable bargain, when it is considered that all Soviet SLBMs would be destroyed in exchange. Table 13 outlines the requirements for such a barrage.

TABLE 13

MINIMUM EMT REQUIREMENTS TO BARRAGE SOVIET SSBNS[10]

62 (number of SSBNs) x pi $(10nm)^2$ = $19{,}468nm^2$

$19{,}468nm^2/51nm^2$ = 382 aimpoints

382 aimpoints x 1.35 (target error) = 515.3 EMT

(assumes SSBNs located within a 10 nm radius circle)

Source: Strategic Anti-Submarine and Naval Strategy, p. 37.

For any of this type of targeting to take place, however, there must be a high degree of confidence in the actual deployment sites of the SSBNs. As noted in Chapter

---

[10] Carter, Managing Nuclear Operations, p. 38.

III, the ICBMs of the United States are weapons not quickly replaceable in time of war. In a short nuclear war this problem would be insignificant, but could become important in a protracted conflict. By positioning SSBNs in forward stations the Soviets maintain the ability to execute an attack which could disrupt the U.S. ability to respond effectively.[11] Traditionally assumed to be the Yankee class charged with this mission, an initial strike would degrade the ability of U.S. intelligence organizations to effectively track down CAB positions. To engage in this type of strike, some SSBNs would obviously not be in CAB positions. Not deploying these forward Yankee class units prior to the onset of hostilities might give indications of intentions to fight a conventional war.

In the event a war did ultimately evolve into a nuclear exchange at the Soviets choice, some advantages would be lost. Increased tactical warning time for the United States Ballistic Missile Warning System could be significant in allowing the United States to respond with a retaliatory attack.[12] In any case, the cost for the Soviets in employing a CAB strategy is felt in a war only in which the Soviets opted not to utilize nuclear weapons initially, and to find then find that forward deployed SLBMs were required to meet emergent requirements.

---

[11] Ashton B. Carter, Managing Nuclear Operations, Brookings Institute, Washington, D.C., 1987, p. 579. Carter describes a nuclear strike against the metropolitan Washington, D.C. area, an example of a de-capitating strike.

[12] Carter, Managing Nuclear Operations, pp. 298-299.

If the Soviets opted to launch a surprise nuclear attack, then the majority of their SSBN fleet could be positioned in CAB stations. Meanwhile, whatever number of SSBNs were required to execute the initial strikes could be forward-deployed. In this way, benefits of both the strategies could be reaped. However, since the current Soviet posture seems to be one which favors the conventional option, this would stand as a net disadvantage to the CAB theory.

4. Protracted Nuclear War

A protracted nuclear war can be defined as one in which an intercontinental exchange takes place over a period of time that lasts over weeks and months vice days and hours. This is an important distinction. If the Soviets have deployed their SSBNs in a CAB posture and intend to fight a protracted nuclear war they will be disadvantaged as noted in the preceding sections. However, this would not be the only problem encountered by the Soviets during a protracted nuclear war. The other potential problems unique to the CAB strategy in this scenario is the risk of detectability-at-launch.

This risk of enemy counter-detection in the wake of a single-SLBM salvoes can become very serious for three reasons. First, the SSBN may betray its position, thus inviting a counterstike. This is particularly significant in the CAB, because, unlike open ocean operations, the SSBN cannot run very far before abandoning its CAB protection. In an open ocean environment, on the other hand, the SSBN might be able to outrun the lethal effects of a nuclear counterbattery fire.[13]

Secondly, in firing only one missile the SSBN has given any reasonably close Western ASW assets precise targeting information to ensure a high probability of an immediate retaliatory attack. For instance, a Western SSN loitering outside the limits of the CAB might detect the SLBM launch and be able to attack with a tactical nuclear [or even conventional] weapons. Currently the Submarine Launched Anti-submarine Rocket (SUBROC) has this capability to attack from a standoff position. Finally, an SSBN confined to CAB waters may not be able to be used effectively in a protracted conflict due to limitations on the missile system. Range constraints would limit the SS-N-6 to other than intercontinental strikes. The tradeoff between distance-from-target (and reduced warning time), and protection from the CAB would severely hamper the degree of flexibility available to the Yankee class SSBN.

---

[13] Assume a Soviet SSBN fires one SLBM then departs datum at 25 knots. If the missile is detected simultaneously, and it takes 40 minutes to retarget an ICBM, and 25 more minutes to arrive,then the SSBN could be anywhere within 490 square miles.

B. POLITICAL DISADVANTAGES OF THE CAB

As mentioned earlier, the concept of the "ASW free zone" is a double-edged sword. On the other hand, an ASW free zone would afford the noisier and more vulnerable Soviet SSBNs "legal" protection against Western forces. Conversely, assuming the United States was treaty-bound to maintain its SSBN assets in ASW free zones, this would greatly simplify the Soviet problems in pursuing U.S. SSBNs in wartime, considering the lack of open ocean Soviet search capability. The U.S. disperses its SSBN force over the oceans in their entirety to take advantage of their extreme covert capability, it would be motivated to cheat on the restriction to confine SSBNs to specific waters. With this U.S. advantage in cheating in peacetime by continuing dispersal of SSBNs, and the advantages of both sides of cheating in wartime, the utility of any ASW free zone is nil. While the Soviets may extol such measures as stabilizing and furthering peace, the disadvantages to the West, and eventually to the Soviets outweigh any possible gains.

C. CONCLUSIONS

In summary, the CAB strategy is of little use to the Soviet Union in waging a war in which it intends to use nuclear weapons in the initial stages. Further, in a war which develops into a limited exchange, the CABs provide several disadvantages which could be significant. Clearly, the CAB strategy is not a strategy optimized for the Soviets to initiate nuclear war involving SLBMs.

If the Soviet Union is willing to consider a disarming first strike against U.S. strategic forces, the CAB strategy will serious impede them from successful execution of this task. Additionally, the use of the CAB might invite the United States to consider a nuclear barrage (given it had adequate locating data on the Soviet SSBN force), escalation that would by definition involve nuclear weapons detonating on Soviet internal waters. This is a very serious shortcoming of the CAB strategy.

The disadvantages of the CAB are by and large problems which would arise in a nuclear war. A shift in Soviet policy back toward a primarily nuclear option would make the CAB strategy less attractive. However, since the current consensus is that the Soviets would, for the time being, prefer the conventional option, the CAB does present advantages optimized for conventional war.

VI. CONCLUSIONS

A. SUMMARY

An examination of possible Soviet military strategies must include analysis of capabilities and intentions. This can only be done via examination of Soviet weapons systems and Soviet military literature. Matching these two components together, in light of the possible political-military goals of the Soviet Union, can shed some light on the way in which the SSBN fleet will be used. As noted earlier in Chapter III, the Soviets currently view the conventional option as the primary option in waging war with the West. With this in mind several further conclusions can be drawn.

First, the Soviets face a choice of basic strategies, and the incumbent constraints each strategic choice automatically entails. To plan to fight conventionally first is by definition to not optimize for nuclear warfare. Clearly, thought must be given to the implications of any strategy on nuclear warfighting capability. Some degradation in overall capability may be acceptable, given that it can maximize overall success for the war being planned. Since even in a degraded mode the Soviet's nuclear components are quite capable of fighting and serving as a strategic reserve, in order to increase chances for conventional victory the Soviets may accept the minimal degradation inherent in a CAB strategy. Whether they would or would not is not the question. The fact is there is very little to support the Soviets executing any strategy at sea, short of that which supports the battle ashore.

Secondly, the entire CAB concept would be less plausible had it not been found in Soviet literature. Therefore, it is important to consider carefully the various aspects of a CAB strategy as they appear in Soviet literature. Soviet keying on the ease of command, control and communications and the importance of limiting wear and tear on equipment are important considerations that bear serious consideration. Of course, in Soviet literature, as in either the Old or New Testament, almost any contention can find a supporting quotation. So it is with the CAB. The Soviets say precious little specifically regarding their SSBN force. However, the Soviets are seemingly given to comment on Western navies, using these navies as a surrogate for their own problems and ideas. Accordingly, the Soviet professional naval journal, Morskoy Sbornik, does discuss various U.S. SSBN programs and their possible deployment schemes. It has never been the plan to shepherd U.S. SSBNs into coastal waters, yet the Soviets point out the advantages in so doing. Again, very little has been said by the Soviets themselves regarding SSBN operations and capabilities; these issue are only discussed in third party analogies.

Lastly, the problem of hardware must be reviewed. Since equipment can only act within its design limits, its range of capabilities are more clearly defined. In terms of the CAB, missile range and overall submarine quieting are the two key issues that drive SSBN strategy. Soviet submarines possess SLBMs of significant range, while emitting noise levels which make them relatively vulnerable vis a vis their Western counterparts. Thus, some reconciliation must be made in terms of survivable operations. In a posture optimized for a conventional war, the CAB takes advantage of Soviet SSBN strengths and covers for their weaknesses.

This issue of reconciliation with respect to the composition of the Soviet fleet and the minimal credit it is given for forward operations is further resolved by the CAB strategy. This large fleet has capabilities which would be a diseconomy, indeed counterproductive, in a force not intended to undertake offensive missions.

In terms of warfighting utility it is myopic and overly hopeful to assume away the primary maritime problem of fighting a conventional war, maintaining the SLOCS open for resupply. If the primary theater of potential warfare continues to be Western Europe, the successful interdiction of the SLOCs would be disastrous for the West. If the Soviets were willing to hazard [and hazard only to a very small degree] their SSBN force via the CAB strategy, the Soviet navy could play the only role the Soviet army would have it play: disrupt the movement of men and munitions to Western Europe. As noted earlier, this does not have to be done extremely well to be effective.

Further research may disclose other data to either support or refute the CAB strategy. Clearly, any information which lends support to the bastion theory supports peripherally the CAB strategy. Continued Soviet deployment of massive numbers of coastal vessels, and naval exercises which support forward operations are evidence of the Soviet intention to use their navy for more traditional tasks.

In closing it seems prudent to repeat Winston Churchill's assertion that the Soviet Union is an enigma, wrapped in puzzle inside a riddle. No one answer will suffice to meet every parameter of the Soviet navy. The CAB is an attempt to logically employ the navy the Soviets have built within the strategy they seem to espouse. Two things are obvious. First, the CAB strategy can only be proven by force of arms, Second, proving or disproving a pre-war theory is of utility only in the deterring of war via correct prediction of the potential enemies intentions and planning accordingly. Napoleon Bonaparte once offered that "the ridiculous is one step from the sublime." Perhaps he was right.

BIBLIOGRAPHY

Abt, Clark, Strategy For Terminating a Nuclear War, Westview Press, Boulder, Colorado, 1985.

Alexander, Lewis, Navigation Restrictions Within the New LOS Context, Offshore Consultants, Peace Dale, Rhode Island, 1986. l (Defense Supply Service Report #MDA 903-84-C-0276).

Ball, Desmond, "Targeting for Strategic Deterrence," Adelphi Papers No. 185, International Institute for Strategic Studies, London, United Kingdom, 1983.

Ball, Desmond, and Richelson, Jeffrey, eds., Strategic Nuclear Targeting, Cornell University Press, Ithaca, New York, 1986.

Barabolya, P., et al., Ocean, Technology and Law [Transalted by the Naval Intelligence Support Center], 1975.

Barnett, R.W., "Soviet Strategic Reserves and the Soviet Navy," U.S. Air Force Symposium, Reston, Virginia, 1985.

Black, Steven K., The Icarus Illusion: Technology, Doctrine, and the Soviet Air Force, Master's Thesis, Naval Post Graduate School, Monterey, California, September 1986.

Breemer, Jan S., U.S. Naval Developments, The Nautical and Aviation Publishing of America, Annapolis, Maryland, 1983.

Burns, Thomas, The Secret War for the Ocean Depths, Rawson Associates Publishers, New York, New York, 1978.

Butler, W.E., "The Legal Regime of Russian Territorial Waters" The American Journal of International Law, January 1968.

Butler W.E., "Innocent Passage and the 1982 Convention: The Influence of Soviet Law and Policy," The American Journal of International Law, June 1987.

Butler W.E., The Law of Soviet Territorial Waters, Praeger Press, New York, New York, 1967.

Butler W.E., The USSR and Eastern Europe and the Development of the Law of the Sea, Oceana Publications, New York, New York, 1983.

Butler W.E., Anglo-Soviet Post UNCLOS Perspectives, Oceana Publications, New York, New York, 1985.

Butler W.E., The Soviet Union and the Law of the Sea, Johns Hopkins Press, Baltimore, Maryland, 1971.

Butler, W.E., Basic Documents on the Soviet Legal System, Oceana Publications, New York, New York, 1983.

Brittin, Burdick H., International Law for Seagoing Officers, Naval Institute Press, Annapolis, Maryland, 1986.

Carter, Ashton, Steinbruner, John and Zraket, Charles, eds., Managing Nuclear Operations, The Brookings Institute, Washington, D.C., 1987.

Chertanov, V., "United States Maritime Strategy," Zarubezhnoye Voyennoye Obozreniye, Moscow, USSR, 1986.

Collins, John M., U.S.-Soviet Military Balance 1980-1985, Pergammon-Brassey Intl. Defense Publishers, Mclean, Virginia, 1985.

Collins, John ed., Strategic Nuclear Delivery Systems, Congressional Research Service, Washington, D.C., 1974.

Daniel, Donald C., Anti-submarine Warfare and Superpower Strategic Stability, University of Illinois Press, Urbana, Illinois, 1986.

Dismukes, Bradford, and McConnell, James, eds., Soviet Naval Diplomacy, Pergamonn Press, New York, New York, 1979.

Foreign Broadcast Information Service, USSR Report: Collected Writings of FLTADM Chernavin, 1978-1986, JPRS-UMA-86-008-L, Washington, D.C., June 1986.

George, James L., The Soviet and Other Communist Navies: The View from the Mid-1980s, Naval Institute Press, Annapolis, Maryland, 1985.

Gray, Colin, Maritime Strategy, Geopolitics and the Defense of the West, National Strategy Information Center, New York New York, 1986.

Gray, Colin, Nuclear Strategy and National Style, Hamilton Press Lanham, Maryland, 1986.

Gunston, William, Rockets and Missiles of World War III, Exeter Books, New York New York, 1983.

Herrick, Robert W., Soviet ASW Tactics, Report #KFR 239-40, Office of Naval Research, Arlington, Virginia, 1979.

Herrick, Robert W., Soviet Naval Strategy, United States Naval Institute, Annapolis, Maryland, 1968.

International Institute for Strategic Studies, The Military Balance, 1987-1988, London, United Kingdom, 1988.

Komer, Robert F., Maritime Strategy or Coalition Defense, Abt Books, Lanham, Maryland, 1984.

McConnell, James M., The Gorshkov Articles, the New Gorskov Book and Their Relation to Policy, CNA-Professional Paper #159, Center for Naval Analysis, Alexandria, Virginia, 1976.

McConnell, James M., Evidence of a Higher Importance of Soviet Navy's Anti-SLOC Mission, CNA-82-1885, Center for Naval Analysis, Alexandria, Virginia, 1982.

McConnell, James M., The Soviet Shift in Emphasis from Nuclear to Conventional: The Mid-Term Perspective, CRC 490-Vol. II, Center for Naval Analysis, Alexandria, Virginia, 1983.

Moore, John E. ed, Jane's Fighting Ships 1986-87, Janes Publishing Co. New York, New York, 1986.

Moore, John E., Submarine Warfare, Adler & Adler Publishers, Bethesda Maryland, 1987.

Morskoy Sbornik articles as cited, translated by Defense Technical Information Center, page references as per original text.

"Narodna Armiya," Sofia, Bulgaria as cited.

O'Rourke, Ronald, Nuclear Escalation, Strategic Anti-Submarine Warfare, and The Navy's Forward Maritime Strategy, Congressional Research Service, Report No. 87-138F, Washington, D.C., February 27, 1987.

Parry, Albert, Russia's Rockets and Missiles, Doubleday and Co., Garden City, New York, 1960.

Polmar, Norman, "The Silent Chase," The New York Times Magazine, January 1, 1984, New York, New York.

Pry, Peter, The Remants of Power: Measuring the Survivability of US Strategic Forces, Unpublished paper dated 13 February 1985, University of Southern California.

Questor, George, ed., Navies and Arms Control, Praeger Publishers, New York, New York, 1980.

Ranft, Bryan & Till, Goeffrey, The Sea in Soviet Strategy, Naval Institute Press, Annapolis, Maryland, 1983.

Rohwer, Jurgen, Superpower Confrontation on the Seas, The Washington Papers #26, Georgetown University, Washington, D.C., 1975.

Ruge, Friedrich, The Soviets As Naval Opponents, Naval Institute Press, Annanpolis, Maryland, 1979.

Scott, Harriet and William, The Armed Forces of the USSR, Westview Press, Boulder, Colorado, 1984.

Scott, Harriet and William eds., The Soviet Art of War, Westview Press, Boulder, Colorado, 1984.

Stefanick, Thomas, Strategic Antisubmarine Warfare and Naval Strategy, Lexington Books, Lexington, Massachusetts, 1987.

Sokolovskiy, V.D., Soviet Military Strategy, [Harriet Fast ed.], Crane, Russak and Company, New York, New York, 1983.

Till, Goeffrey, Maritime Strategy and the Nuclear Age, Saint Martin's Press, New York, New York, 1984.

Tritten, James J., Soviet Naval Forces and Nuclear War, Westview Press, Boulder, Colorado, 1986.

Tritten James, J., "Scenarios of Nuclear Escalation and Dominance and Vulnerability," Naval Postgraduate School Technical Report No. NPS-56-88-013, June 1988.

Trost, C.A.H., "Strategic Options: Bringing Down the Bird of Thought", Current Strategy Forum, June 1987.

Tsipis, Kosta, et al., The Future of the Sea Based Deterrent, The MIT Press, Cambridge, Massachusetts, 1973.

United Nations Convention on the Law of the Sea, 1983.

United States Department of State, Limits in The Sea, No. 107 (The Soviet Union), September 30, 1987.

United States Congress, Soviet Oceans Development, Report to the Committe on Commerce and National Ocean Policy Study, Washington, D.C., October 1976.

United States Naval Institute Proceedings articles as cited.

United States Navy, "Report on the Annual Office of Naval Intelligence Symposium," Washington, D.C., August 24, 1981.

Van Cleave, William, Fortress USSR, Hoover Institution, Stanford, California, 1986.

Wegener, Edward, The Soviet Naval Offensive, Naval Institute Press, Annanpolis, Maryland, 1975.

INITIAL DISTRIBUTION LIST

		No. Copies
1.	Defense Technical Information Center Cameron Station Alexandria, Virginia 22304-6145	2
2.	Library, Code 0142 Naval Postgraduate School Monterey, California 93943-5002	2
3.	Chief of Naval Operations Office of Theatre Nuclear Warfare (OP-65) The Pentagon Washington, D.C.	1
4.	Prof. Jan S. Breemer, Code 56Bb Department of National Security Affairs Naval Postgraduate School Monterey, California 93943-5000	1
5.	Prof. Kerry M. Kartchner, Code 56Kn Department of National Security Affairs Naval Postgraduate School Monterey, California 93943-5000	1
6.	LT Walter M. Kreitler 402 Mokelumne River Drive Lodi, California 95240	1
7.	CDR G.A. Bushnell Office of the Joint Chiefs of Staff J-7 Plans and Policy The Pentagon Washington, D.C. 20301	1
8.	RADM O.E. Osborn RR #1 Box 5150 Wingthrop, Maine 04364	1
9.	LCOL G. Davis Political Science and History Department The Virginia Military Institute Lexington, Virginia 24450	1

10. Department Chairman, Code 56 1
Department of National Security Affairs
Naval Postgraduate School
Monterey, California 93943-5000

11. DCNO Plans, Policy, and Operations 1
(OP-06B)/OP-603
Office of the CNO
Washington, D.C. 20350

12. Executive Director, CNO Executive Panel 1
OP-00K, Attn: CDR K.D. Hahn
4401 Ford Avenue
Alexandria, Virginia 22302

13. President 1
Attn: CAPT D. Smith, USN
Naval War College
Newport, Rhode Island 02841

14. Deputy Director of Naval Intelligence (OP-009B) 1
Office of the CNO
The Pentagon--5C564
Washington, D.C. 20350

15. Chairman, Campaign and Strategy Department 1
Naval War College
Newport, Rhode Island 02840

16. Center for Naval Analyses 1
Attn: B. Dismukes, J. McConnell, C. Petersen, Library
4401 Ford Avenue
Alexandria, Virginia 22302

17. Science Applications International Corp. 1
Foreign Systems Research Center,
Washington Branch
Attn: John F. Sloan, Dr. Fred Giessler
1710 Woodbridget Road
McLean, Virginia 22102

18. Dr. T. Grassey, Code 56Gt 1
Naval Postgraduate School
Monterey, California 93943-5000

19. Soviet Seapower Education Program 1
NMITC Building
420 Dam Neck Road
Virginia Beach, Virginia 23461-5575

20. Competitive Strategies Office 1
Attn: CDR M. McCune
The Pentagon--1E801/J
Washington, D.C. 20301

21. Director of U.S. and International Studies 1
U.S. Naval Academy
Annapolis, Maryland 21402-5030

22. National Security Council 1
Attn: CAPT Linton Brooks, USN
Room 386, Old Executive Office Building
17 Pennsylvania Avenue
Washington, D.C. 20005

23. Director, Net Assessment 1
Office of the Secretary of Defense
The Pentagon--3A930
Washington, D.C. 20301

24. Director of Naval Intelligence (OP-009) 1
Office of the CNO
The Pentagon--5C600
Washington, D.C. 20350

25. CAPT Peter Schwartz, USN 1
US NATO/DoD Box 102
APO New York, 09667-5028

26. CAPT John L. Byron, USN 1
Training Systems Branch Head (SP-15)
Department of the Navy
Washington, D.C. 20376-5002

27. Michael Rich 1
Vice President, National Defense Research Institute
RAND Corporation
1700 Main Street
P.O. Box 2138
Santa Monica, California 90466-2130

28. CAPT Jerome J. Burke, Jr., USN 1
Speechwriter for the Secretary of Defense
The Pentagon--3D853
Washington, D.C. 20301

319 - 893A

Thesis
K85451 Kreitler
c.1 The Close Aboard Bastion: A Soviet ballistic missile submarine deployment strategy.

Thesis
K85451 Kreitler
c.1 The Close Aboard Bastion: A Soviet ballistic missile submarine deployment strategy.

DEMCO

AMERICAN BINDERIES 3

thesK85451
The Close Aboard Bastion :
3 2768 000 84638 0
DUDLEY KNOX LIBRARY